# THE ARCHITECT & BUILDING NEWS

28 OCTOBER 1954 · VOL. 206 · NO. 18 · ONE SHILLING WEEKLY

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*Architect: Thomas S. Cordiner, F.R.I.B.A.*

# New Church for Bishopton Approved School

This Church was recently constructed for the Trustees of the Convent of the Good Shepherd at Old Bishopton, near Glasgow. The Nave, the Choir, and the porch enclosing the West door are all contained under the pitched roof section, whilst the angled walls mark the confines of the Sanctuary and Sacristies. The Bell Tower, rising to a height of 50 feet, can be seen beyond the Sanctuary.

The building throughout is of hollow wall construction faced with mixed Golden Brown rustic facings; the concrete dressings generally are brushed to expose the granite aggregate.

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**'Expamet' Expanded Steel being used as a reinforcement for concrete in the construction of the Trelleck Reservoir for the Monmouth Rural District Council.**
CIVIL ENGINEERS: *Thomas & Morgan & Partners, Pontypridd, Glam.*
CONTRACTORS: *Norwest Construction Co. Ltd., Litherland, Liverpool.*

# Concrete reinforcement with 'Expamet' Expanded Steel in reservoir construction

HERE you see a typical application of "Expamet" Expanded Steel — as reinforcement for concrete. "Expamet" Expanded Steel is the unique reinforcement that affords the highest degree of grip and bond in concrete. The shape of the meshes also assists in "distribution" of point or concentrated loads, and in preventing cracking of concrete due to shrinkage and changes of temperature.

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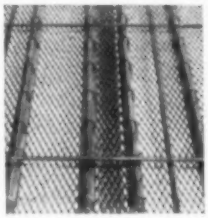

By its use, the advantages of monolithic construction are obtained in the construction of concrete floors, roofs and similar decking, without the expenses of preparing, erecting and dismantling close boarded shuttering. Standard sizes are 3′ 0″ wide (short way of mesh) by 4′ 0″ to 15′ 6″ long inclusive, rising by 6″ at a time.

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# Foresight and Fire.....

When fire broke out in a blanket weaving mill it spread so rapidly that the employees—according to eye witness accounts—had to run for their lives! But the Mather & Platt Automatic Sliding Armoured Door shown above did good service in preventing the spread of fire from the Mule Shed and Store to the adjoining Weaving Shed.

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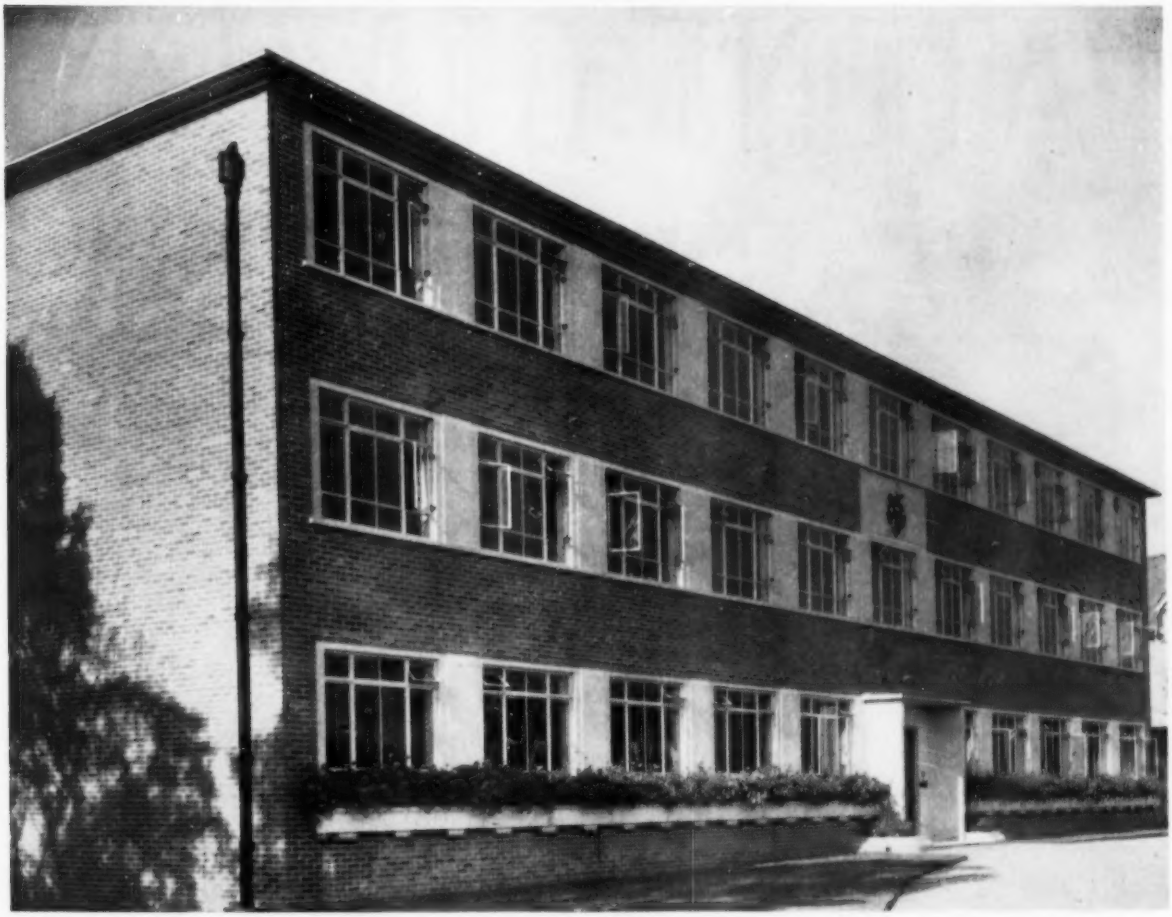

**New Building for GLYN MILLS & CO., Lampton House, Hounslow, Middlesex, faced with Ibstock Golden-Brown Multi hand-made bricks.**

*Architects: Goodhart Rendel & Partners F/F.R.I.B.A. Contractors: Demolition & Construction Co. Ltd. Bricks supplied through Finnis, Ruault & Nicholls Ltd., London.*

Much of the attractiveness of good brickwork arises from texture of bond and joint. When this is allied to bricks of light and varied colour—as with the Ibstock Golden-Brown multicolour sandstocks used for this new building for Glyn Mills & Co.—the fine appearance imparted is one also of great durability.

# Ibstock FACINGS for Colour

*Owing to present demand, supplies of facings of most types are booked for a long time ahead and reservations for 1955/6 are now being made.*

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# PATENT GLAZING

## NEW B.O.A.C. HEADQUARTERS

*Part of the roof of the B.O.A.C. Headquarters at London Airport. The total area of glazing is approximately 280,000 square feet.*

The roof of the new B.O.A.C. Headquarters, London Airport, is a fine example of the effective use of patent glazing in the design and construction of the biggest modern buildings.

The completed work is also an outstanding instance of the advantages to architects and contractors of using the services of firms who are members of the Patent Glazing Conference. Sixty tons of aluminium were needed for the glazing for the hangar roof. When the contract was placed supplies of aluminium to all patent glazing manufacturers were in short supply because of the demands of aircraft manufacturers engaged on the defence programme. This difficulty - and others which such a large-scale piece of construction presents - were overcome by two members of the Patent Glazing Conference collaborating on the contract and working closely togther to make the erection of the roof a combined operation.

*Architect and engineer: Sir Owen Williams and Partners.*
*Main contractors: Messrs. W. & C. French Ltd.*

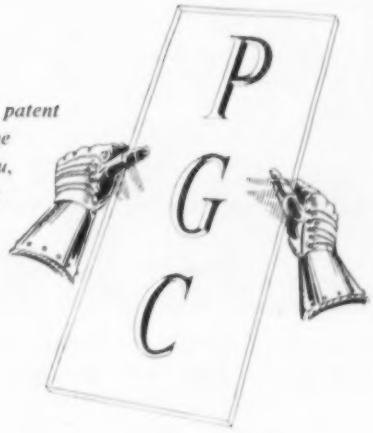
# SPECIFICATIONS

## LONDON AIRPORT

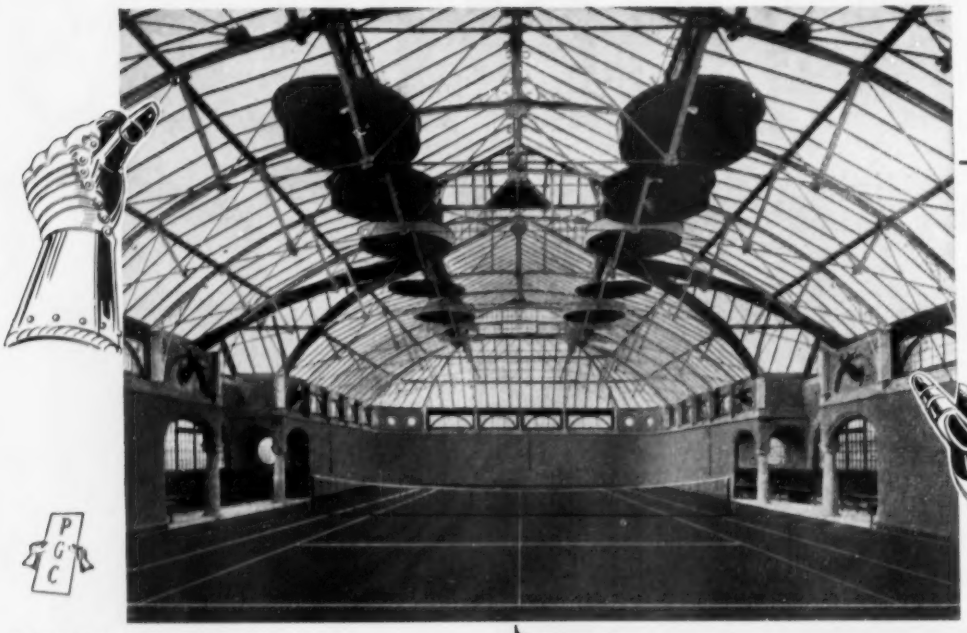
*A close-up view showing the glazing and supporting structure from underneath.*

*A general view of the interior of one of the hangars.*

*For all facts about patent glazing, write to the Information Bureau, the Patent Glazing Conference, Burwood House, Caxton Street, London, S.W.1.*




*ISSUED BY THE PATENT GLAZING CONFERENCE*



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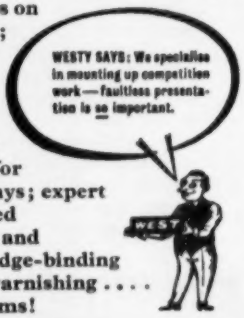


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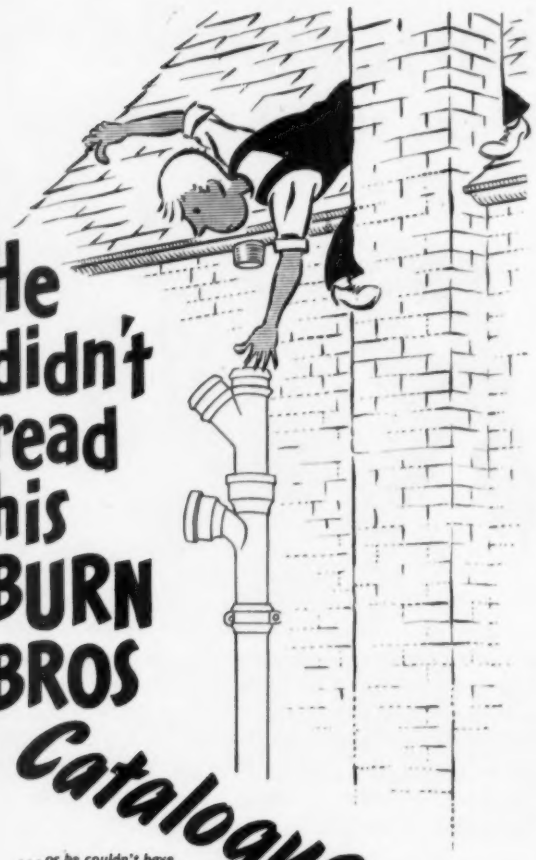

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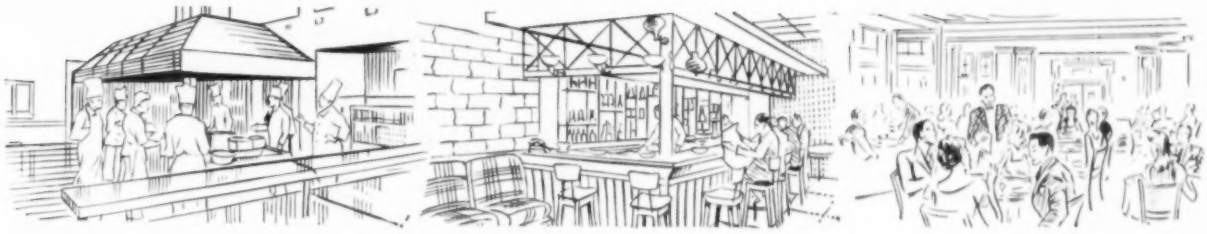
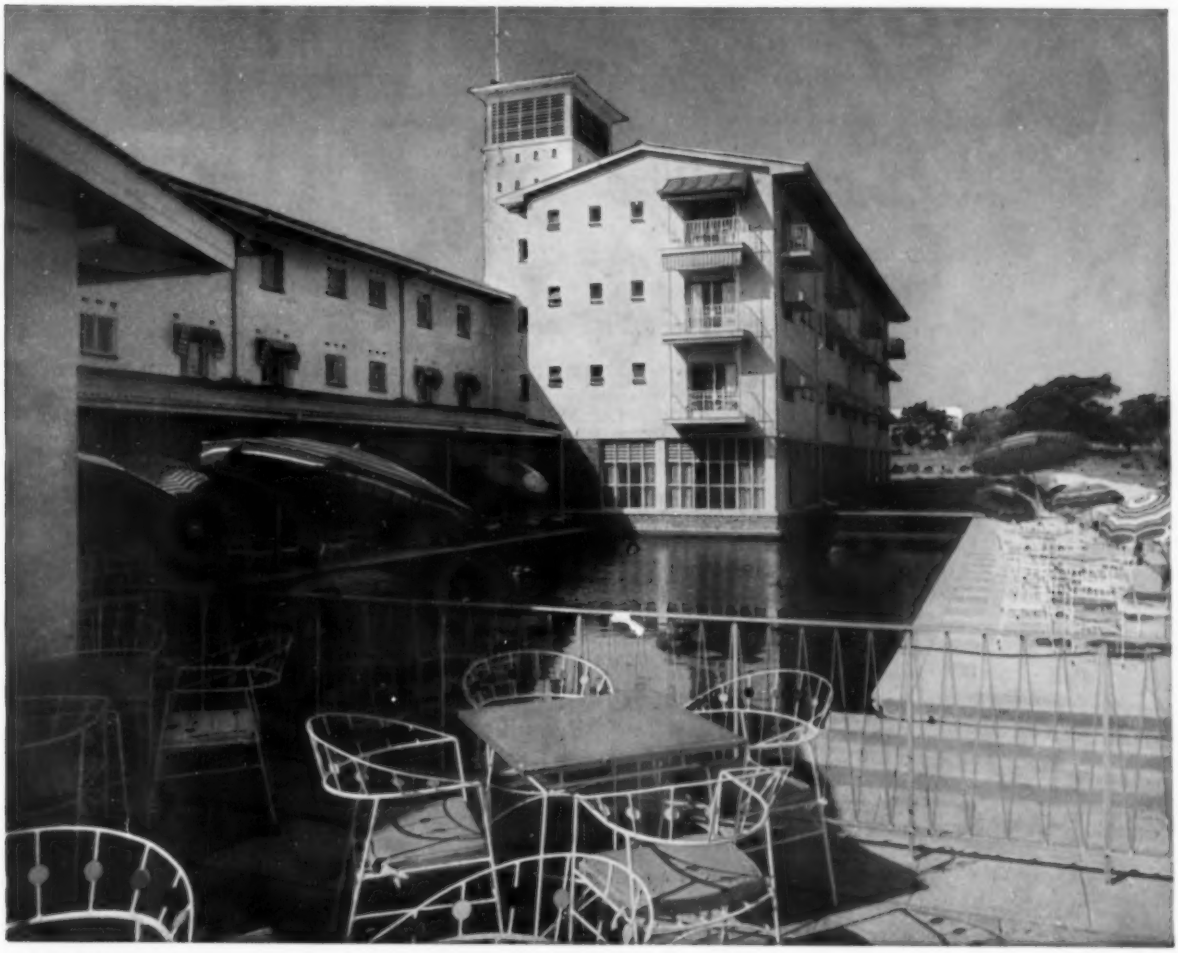


# Building for the Industries of the World



**HOTELS** The Ridgeway Hotel, Lusaka

The site of the hotel, established on the low, tree clad spur, stands above the lower town in a flat plain that stretches 11 miles towards the more mountainous scenery of Scilanga, provides the most modern luxury hotel standards in close proximity to Lusaka Airport.

*Architect:* G. A. Jellicoe, F.R.I.B.A.

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# The Glass Age Development Committee

Sixteen years ago a Committee of architects, convened by Pilkington Brothers Limited, was invited to suggest solutions to certain problems of town planning. The six illustrated reports issued by that Committee demonstrated what could be done in London and other cities by using all the structural and decorative resources of the glass age, but presenting practical schemes that could actually be built.

Since 1938 and 1939, when those reports were published as advertisements in the architectural journals, great changes have occurred and others are foreshadowed: new ideas about the layout of cities have arisen, new materials and techniques to facilitate their expression have been invented, road traffic has increased to an almost unmanageable volume, and new forms of traffic — the helicopter for example — are posing fresh problems. The cities and countryside of Britain must obviously change greatly before the year 2000 — changes for the better could be made now; and in anticipation of such changes and to stimulate thought about them, Pilkington Brothers Limited have again convened a Committee of architects and engineers.

*This Glass Age Development Committee consists of:*

G. A. Jellicoe, F.R.I.B.A.
Edward D. Mills, F.R.I.B.A.
Ove Arup & Partners

## THE FIRST PROJECT—SOHO

### 1 Preliminary Survey

The Committee's first project is the Soho area, potentially one of the most economically fruitful areas in London. It is bounded northwards by Oxford Street, eastwards by Charing Cross Road, to the south by Shaftesbury Avenue, with Regent Street on the west.

A preliminary survey of the project occupies these two pages, and the proposals made are for the development of the Soho area as a whole, up to its full economic capacity, with the following reservations:

a *The perimeter shops and theatres are to be retained in their present use.*

b *The existing personal character of Soho, in principle if not in detail, is to be preserved.*

These are the main development proposals:

i *To create a great weather-protected and air-conditioned shopping and office precinct, free of traffic but accessible for goods, private cars, helicopters, and existing public communications.*

ii *To create six 24-storey blocks of good-class residential flats.*

iii *To create a spacious open-air entertainment centre, as a supplement to existing indoor entertainment facilities.*

**All the proposals made for this project are practical possibilities.**

**The techniques and materials to execute them exist now.**

**Their detailed application will be published in further reports.**

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1. *24-storey blocks of flats, helicopter garages above, restaurants on Soho Gardens level*
2. *Soho Water Gardens; canals on glass, spanning the streets below*
3. *Entrances to air-conditioned shopping and office precinct*
4. *Helicopter park above existing theatres and shops*
5. *Existing squares retained*
6. *Access of private cars to sub-basement*
7. *Access of goods traffic to upper-basement*

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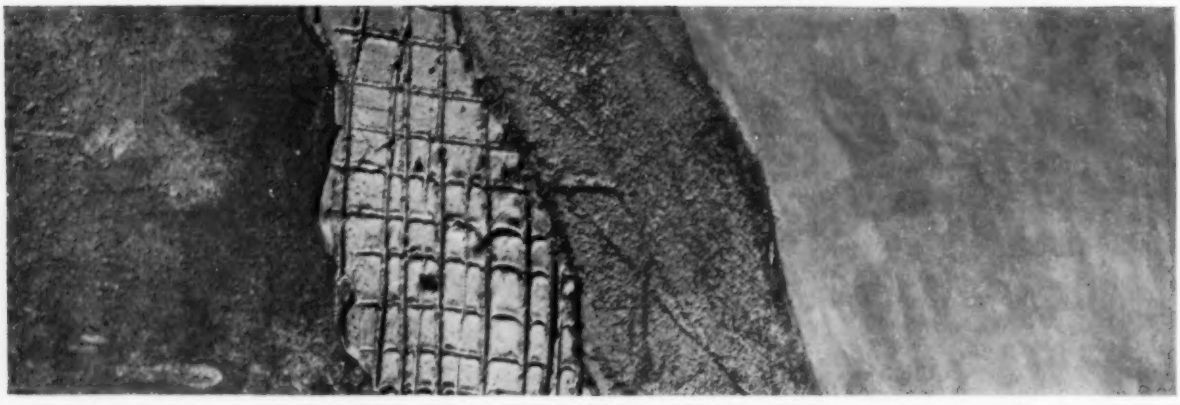

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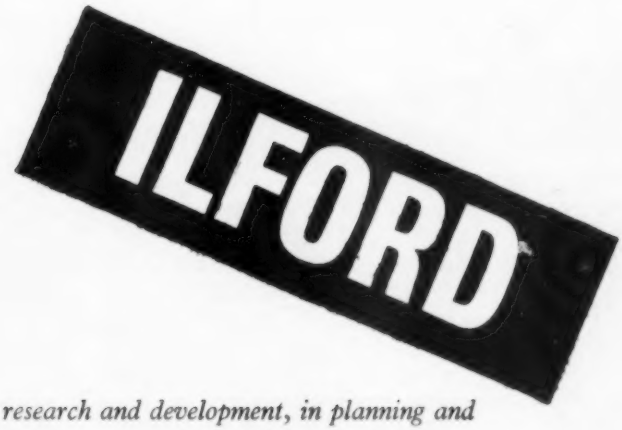


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# FINE BUILDINGS · · · ·

Everywhere these days you can see really fine buildings—attractively designed and really well-built. Such a building is illustrated below—Private House of F. L. Hannam, A.R.I.B.A., 10, Stoke Hill, Bristol, 9.

Architects: Burrough & Hannam, F/A.R.I.B.A., Bristol, 1.

Builders: Western Homes & Estates Ltd., Bristol, 8.

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Vol. 206 No. 18

THE ARCHITECT & BUILDING NEWS

28 October 1954

"The Architect and Building News" incorporates the "Architect," founded in 1869, and the "Building News," founded in 1854. The annual subscription, inland and overseas, is £2 15s. 0d. post paid: U.S.A. and Canada $9.00

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# BUILDING IN CONCRETE

IT is only about fifty years since Hennebique and Coignet first experimented with reinforced concrete, thus laying the foundations for the "complex world-wide technique with its own architectural forms" that we know to-day. The universal application of reinforced concrete to architecture can be fully appreciated in the material displayed at the "Building in Concrete" Exhibition at the Royal Institute of British Architects which was opened by the President, Mr. C. H. Aslin, C.B.E., F.R.I.B.A., on October 21, and will remain on view until the end of the month.

This Exhibition has been prepared by the Joint Committee on Structural Concrete (representing the Cement and Concrete Association, the Prestressed Concrete Development Group, and the Reinforced Concrete Association) for showing at the R.I.B.A., and the material was selected by a Joint Committee representing the Royal Institute and the Joint Committee on Structural Concrete.

Some 2,600 photographs from every country in the world were submitted to the Selection Committee and, from these, 280 were chosen for display, a large number of additional photographs being mounted in albums which are on view, and are classified to coincide with the sections of the main Exhibition.

The Exhibition starts with a brief historic introduction with photographs of early reinforced concrete buildings up to the 1930's; this section includes the pioneer work of Perret, Le Corbusier, Maillart, and Freyssinet, on the Continent, and Tecton, Maxwell Fry, Connell, Ward and Lucas and others in England. Few of the photographs were taken recently and offer little evidence concerning the way in which these early experiments have withstood the ravages of time. The main Exhibition consists of eleven sections covering every type of building from churches in Brazil, to bridges in Switzerland and small houses in England; the field is so wide and the material of such interest that more than one visit is needed to enable the observer to digest it properly. Unfortunately, no plans or drawings are displayed and one would like to know a good deal more about some of the buildings illustrated, in spite of the helpful notes in the Catalogue.

As a relief to the mass of photographic material a number of excellent models has been included; of these the model of Basil Spence's latest development of his Coventry Cathedral scheme is worthy of special mention. Not only is it a superb example of the model-maker's craft, but it shows that the Cathedral design has been developed considerably by the architect since the competition design and has been simplified in its main outline to the benefit of the scheme. The view through the great glazed doors at the "West" end down the lighted nave to the altar and the vast tapestry will be very impressive indeed, if the model is an accurate guide.

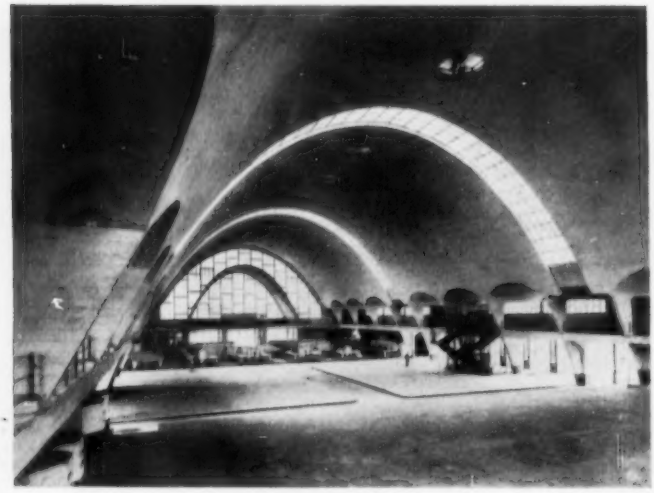
The other high-spot of the display is the panel of large colour transparencies, which suggest a new way of enlivening exhibitions, for even if all the buildings included in this section are not of equal architectural quality there can be no question of the excellence of the photographs.

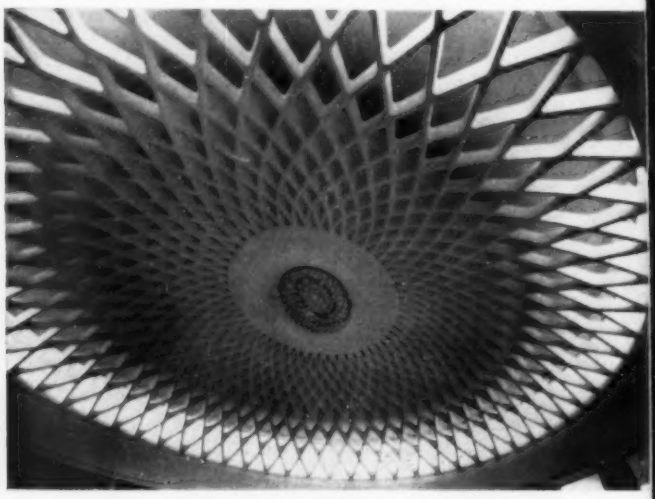
In one sense an exhibition such as this is dangerous; here we see the superb photographs of fine buildings, often using concrete in new and ingenious ways, but we are not told how or why the buildings were designed and built in this way, nor do we know the climatic and physical conditions they have to withstand. Beside the new Mexican University Buildings even the best British new schools look a little ordinary. Why can't we in Britain cantilever great concrete canopies 99 feet like the Municipal Stadium in Rio? Why can't we just give concrete straight from the shuttering a coat of colour wash and then find it in

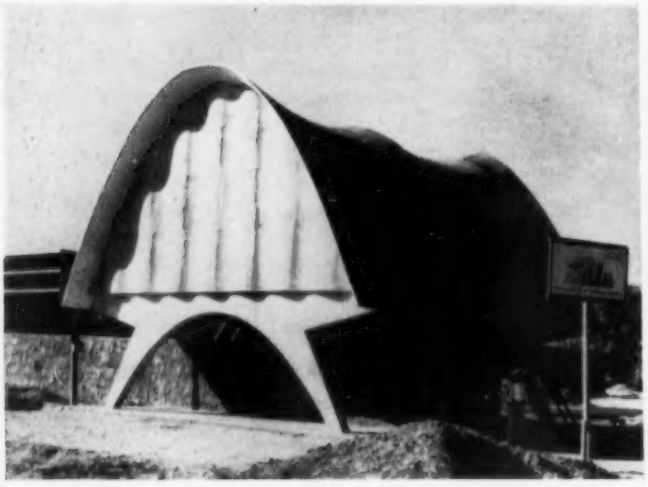
first-class condition 20 years after, like St. Karls Church, Lucerne? The answer was suggested at the R.I.B.A. Conference at Torquay. First, we do not exercise enough care with our concrete works, and secondly, the British climate does not deal kindly with buildings faced with unprotected concrete and ill-considered detail.

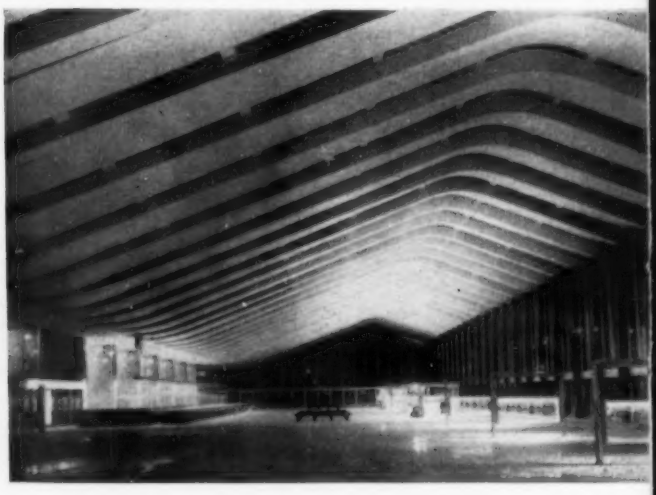
One of the important contributions to concrete building which has been made by the industry and architects in Britain since the war has been the outstanding development of precast concrete and particularly of concrete facing slabs with coloured and textured finishes. The small section of this Exhibition featuring actual slab units with a wide range of surface colours and textures is therefore particularly welcomed, especially as the catalogue gives details of the buildings on which they were used and the name of the manufacturers.

Whatever minor criticisms one may make about the " Building in Concrete " Exhibition, these are outweighed by the congratulations which all concerned with it deserve, for a well-designed, stimulating and comprehensive display. All architects and students must visit it before the end of the month, and it is hoped that the sponsors will be able to find means of sending it around the country for presentation in the larger provincial cities. Why not offer it to the Museum of Modern Art, New York, as well?









*From the " Building in Concrete " Exhibition at the R.I.B.A.*

*Market Hall, Rheims. Photographer : Chevojon. Architect : E. Maigrot.*

*University City, Mexico. Cosnice Ray Pavilion. Architect : F. Candelas.*

*Chianciano Health Baths, Italy. Designer : P. L. Nervi.*

*The new " Termini " station at Rome. Architects : L. Calini, E. Montuori, M. Castelliozzi, V. Fadigati, A. Pintonello, A. Vittelozzi.*

# EVENTS AND COMMENTS

### *COVENTRY GIBSON—II*

On the face of it there seems to have been a pretty good muddle at Coventry. Last week you will remember that I reported that Mr. Donald Gibson had resigned to take up the position of County Architect to Nottinghamshire. Some of his senior staff at Coventry petitioned the Council to ask him to change his mind. Differences between Mr. Gibson and the Council were stated to be capable of solution given good will on both sides. The Lord Mayor of Coventry then wrote to the Notts C.C. and asked them to release Mr. Gibson. Mr. Gibson also wrote. The County has refused, and no one could blame them for that. They did not, however, stop at a formal refusal but gave their views on the movement of "officers" as follows.

"In reaching this conclusion the Salaries and Establishment Committee expressed strong views that no officer is indispensable to his local authority and they have informed the Lord Mayor that, in their opinion, this is particularly true where the authority is a large and responsible one with an adequate deputy chief officer and architectural staff.

"Furthermore, they are of opinion that there is much to be said for the free circulation within the local government service of officers with merit and ability, and they therefore very much deprecate the pressure that has been brought to bear on Mr. Gibson in this matter."

The County Council's letter pointed out that it was open for Mr. Gibson to terminate his appointment and not to take up duty with them. Mr. Gibson, however, is reported to have said that he would definitely be taking up his new post, and that he hoped to be in Nottingham on February 1. He would look forward to a happy time with a new council and new officers.

This appears to be a final decision. I still think that it is the greatest possible pity. To my mind the Notts County Council's remarks about officers not being indispensable are complete nonsense in this context. It may be true of administrators, and possibly engineers and surveyors, but it is certainly not true of architects.

One does not, of course, know the inside story of this sad business, but it does occur to me that the Coventry City Council might have realized rather sooner that Mr. Gibson was their key man. Here I quote from the Lord Mayor of Coventry's letter to the Notts County Council. "It is quite clear on reflection that Mr. Gibson himself appreciates that the whole of his life is so entwined with the City that it would be a tragedy to leave." This is almost exactly how I put Mr. Gibson's relation to Coventry last week. The Lord Mayor's suggestion that only now does Mr. Gibson realize the seriousness of the step he has taken is interesting but difficult to believe.

As a footnote to all this the chairman of the Nottinghamshire Salaries and Establishment Committee is reported to have said: "We strongly disapprove of the most unusual action that they [Coventry C.C.] have taken."

### *TOWARDS DOUBLE WINDOWS*

The Chairman of the L.C.C. Housing Committee, Mr. A. Reginald Stamp, has recently returned from a tour of inspection of Scandinavian housing. He is stated to have been impressed by the use of double windows and movable partitions. He liked the "storm sash" kind of double window where a complete window is screwed into position over the normal summer window. This type is much used in North America. The main objection to it is that the combined window cannot be opened. It is, of course, absolutely draughtproof.

The development of double windows in this country is very slow indeed. One firm only makes them, on a Swedish pattern, as a standard article in timber; one firm specializes in double metal windows for sound proofing; and E.J.M.A., whose valuable work in joinery design in times of shortage was so much appreciated, produced a prototype double window. This has, I believe, never been made for sale by E.J.M.A. members, although it is still to be seen at the Building Centre. Double glazing units are a possible alternative to double windows but they do not reduce noise very much as compared with a double window with a 4in air space.

It seems to me that noise reduction from outside to inside is going to be an important building requirement in the future. In the jet helicopter age it may be quite impossible to make oneself heard out of doors and we may after all find ourselves wearing space hats of inverted goldfish bowls if only to protect our ear drums.

### *THE NEW MINISTER OF M.o.E.*

I am sorry that Sir David Eccles has left the M.o.W. He did a very good job there. He was lucky to be borne along on the rising tide of building but even so he showed far greater interest in building and architecture than any previous holder of his office. I have a feeling that some contractors did not appreciate having an intelligent and highly cultured minister who took a very great personal interest in the development of the City of London. Under Sir David Eccles the M.o.W. architects' office has produced some very good buildings—it has yet to produce a contemporary embassy, but I am sure that it could now do so if it were given its head. Sir David will have more scope for exercising his live interest in architecture at the M.o.E. He will certainly be able to ensure that some of the very silly things which were said at the Conservative Conference about school building are given no official support. I trust also that he will increase rather than decrease the amounts set aside for planting, paintings and sculpture in schools.

### *A.B.S. CHRISTMAS CARDS*

Five kind people have again contributed designs for Christmas Cards for the A.B.S. Two are priced at 9d each and three at 6d. Full particulars of the cards with illustrations were contained in the September issue of the R.I.B.A. Journal.

Please support the A.B.S. by buying at least some of your Christmas cards from it.

### *TAILPIECE*

An electrical engineer always tightens a nut with pliers. A mechanical engineer tightens it the proper way with a hammer and chisel. A production engineer makes all this effort necessary, as he has forgotten to mill the flats on the nut. A chemical engineer has the simplest approach. He just lets the whole thing rust solid.—Sir Walter Puckey, President, at the annual dinner of the Institution of Production Engineers.

ABNER

# NEWS OF THE WEEK

## Screen Design Winners

Fifty-two artists have submitted 75 designs for screens, and from these, the following five winners have been selected:—Miss Mary Adshead, Mademoiselle Maddy Benard, Mr. E. Dinkel, Mr. George Oakes and Mr. Humphrey Spender.

In July, the then Minister of Works, Sir David Eccles speaking at a convocation of the Royal College of Art, invited artists to submit designs for sixfold screens to be used in British Embassies abroad. £75 was offered for the painting of each screen, the cost being met from the Minister's special fund for works of art.

## Building Teachers' Conference

The Autumn Meeting of the Building Teachers' Conference will be held on Saturday, November 20, 1954, at the School of Building, East Ham Technical College, Arragon Road, E.6.

The morning session at 10.30 a.m. will take as its subject, "The new suggestions in respect of the Conditions of Award of City and Guilds Full Technological Certificates," which will be introduced by Mr. Harvey G. Frost, O.B.E., F.I.O.B., and discussion on the subject will be introduced by Mr. D. E. Wheatley, M.A., B.Sc. (Department of Technology, City and Guilds of London Institute).

The afternoon session will open with the Annual General Meeting of the Conference, and will be concluded by a talk and demonstration on "Refrigeration and the Absorption Unit," given by representatives of Electrolux, Ltd.

## Appointments

Donald A. Shanks, A.R.I.B.A., has been appointed Education Architect to the City of Belfast in succession to R. S. Wilshere, F.R.I.B.A., F.R.I.C.S., who is retiring.

David Jenkin, B.A.(Arch.), A.R.I.B.A., A.M.T.P.I., has been appointed Deputy County Architect of Buckinghamshire.

Dennis Pillinger has been appointed Chief Assistant to the County Architect of Hampshire. He served previously with East Suffolk County Council and Pembrokeshire County Council.

## COMING EVENTS

***National Federation of Building Trades Employers***

November 2, at 7 p.m. Annual Dinner of London Association of Builders' Foremen and Clerks of Works at Café Royal, W.1. G. W. Grosvenor, President of the National Federation, will preside.

***Royal Society of Arts***

November 3, at 2.30 p.m. Inaugural Address, "Looking Ahead," by E. Munro Runtz, F.R.I.C.S., Chairman of Council of the Society. At John Adam Street, Adelphi, W.C.2.

***Royal Institute of British Architects***

November 2, at 6 p.m. President's Inaugural Address. Presentation of London Architecture Bronze Medal, Unveiling of Portrait of Sir Howard Robertson, M.C., A.R.A., S.A.D.G., Past President, R.I.B.A., at 66, Portland Place, W.1.

***The Architectural Association***

November 3, at 6.15 p.m. Informal Illustrated Talk, "Reconstruction in London," by Percy Johnson-Marshall, at 36, Bedford Square, W.C.1.

***The Royal Institution of Chartered Surveyors***

November 8, at 5.30 p.m. Ordinary General Meeting. The President, C. P. Bowyer, T.D., F.R.I.C.S., will deliver his Presidential Address at 12, Great George Street, W.1.

*Mr. Nigel Birch. The new Minister of Works.*

*Mr. Duncan Sandys. The new Minister of Housing and Local Government.*

# IN PARLIAMENT

## London Underground Garages

The three firms of consulting engineers appointed last June to prepare draft plans and estimates for garages under Grosvenor Square, Cavendish Square and Finsbury Square have completed their task. Mr. Boyd-Carpenter stated in answer to questions that the reports had just been received and were being studied. (Oct. 20.)

## London Builders' Conference

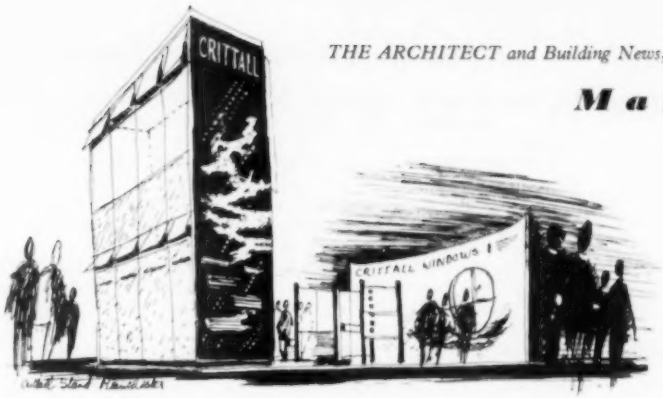
Mr. H. Hynd asked the new Minister of Works, Mr. Nigel Birch, what action he proposed to take in view of the report of the Monopolies Commission on the supply of buildings in the Greater London area. Mr. Birch stated that discussions had started with the parties concerned. The representatives of the London Builders' Conference had stated that the practices criticized by the commission were being suspended, and that steps were being taken to provide for their abandonment. He hoped to be able to make a fuller report to the House in due course. (Oct. 19.)

## A New Queen's Hall

Mr. Butler, Chancellor of the Exchequer, announced that he had decided to appoint a small committee to advise him on the need for, and the economic prospects of, a new hall on the Queen's Hall site. The chairman would be Professor Lionel Robbins, and the other members Sir Adrian Boult, Sir Russell Kettle, Mr. N. Tucker and Mr. W. F. Williams. (Oct. 19.)

## Roman Remains

The Minister of Works was asked a number of questions arising out of the discovery of the Temple of Mithras during excavations on the site of Bucklersbury House, which he answered generally with a commendation of "the public-spirited decision" of the owners of the site to dismantle the remains of the temple and re-erect them in the forecourt of the new building. Mr. Snow questioned the figure of £500,000 as the cost of modifying the building plan, and asked if the Department had not received other advice that made nonsense of this vast amount—a large part of which was in the form of compensation. Mr. Birch said that he had looked into the figure, and did not think it was exaggerated. Mr. Edelman asked if the Minister would make it a condition of granting building licences involving major excavations that discoveries of antiquarian or other national interest might be preserved, at the Minister's discretion. Mr. Birch stated that he had no power to do so. (Oct. 19.)




# Manchester Building Exhibition

Reviewed by
DAVID JENKIN,
B.A. (Arch.), F.R.I.B.A., M.T.P.I.

THE twentieth Building Trades Exhibition at Manchester opened on October 19 and continues until the 30th. The City Hall, where it is held, is one of those nineteenth century iron and glass market-hall type buildings, rather like the Olympia in London, where columns with cast-iron "Corinthian" capitals, all painted a pale blue-grey, hold up the glass roof. It imparts a very effective setting to the exhibition.

Easily the best of the new stands is that by Neville Conder for the CRITTALL MANUFACTURING CO., LTD. It makes use of Crittall's answer to the curtain walling demand, which they call "FENESTRA." Extruded aluminium sections are used to form the panel framing, with a secret vertical expansion joint where required in the building. There is a choice of cladding, but the type shown is "ASBESTOLUX" panelling by the CAPE ASBESTOS CO., LTD. OF MANCHESTER, which consists of small, green, slate, mineral chippings stuck to an asbestos sheet backing. It certainly looks most attractive in the exhibition.

Horizontally centre-hung windows are always a worry when you want to hang curtains or blinds, and Crittall's Projected Window, on show, solves this problem by pivotting the opening light on steel arms that are housed within the vertical frames of the section. As the window opens the arms move outwards so that no part of the window comes inwards to foul the curtains.

W. H. HEYWOOD & CO., LTD., OF HUDDERSFIELD, are roof-covering contractors, except for slate and tiling. Their stand concentrates on patent glazing and thermal insulation. Pride of place goes to a very large photograph of Dunston-on-Tyne B. Power Station, showing their patent glazing used as curtain walling for a large industrial building. A similar contract is just being completed at Barking, Essex. They claim to be the only patent-glazing firm in the country which always hot-dip galvanizes their steel glazing-bar cores before coating with lead. This is an additional precaution against rust in the event of mechanical damage to the lead. They show successive stages of this treatment, and also a glazing bar which was recently removed on the reconstruction of a building. Though it has been exposed to the weather for forty-seven years, and the lead has suffered badly, the steel core is as bright as new.

Since double-glazing to roofs lends itself to fine dust and humidity penetrating the cavity, the efficiency of the seal and the length of its life are extremely significant. W. H. HEYWOOD separate their sheets of cast glass by means of an aluminium channel with rubberized strips against the glass. This method has been in use for nine years, and the firm reports "no complaints" about dust or condensation.

On the subject of condensation generally, BRITISH LEAD MILLS, LTD., are introducing "SECULATE" ANTI-CONDENSATION COMPOUND. Instead of attempting to absorb the condensation in the manner of normally encountered anti-condensation paints, this, the makers say, creates an insulating barrier between the atmosphere and the surface on which it is applied. They say, further, that it may be used on brick, breeze, plaster, cement, concrete or metal, that it is fire-resisting, does not flake, has a fungicide incorporated, and is durable. It is marketed as a thick paste compound, and in a thinner form as a decorative finish with a variety of pastel shades. Two coats of the latter are said to cure pattern staining. The material was demonstrated by being applied to the outside of the bottom of an ice-cooled tank. Half of the soffit was treated with the compound and half with ordinary paint. The untreated area was thick with condensation droplets, while the treated part appeared to be quite dry.

THE TIMBER DEVELOPMENT ASSOCIATION, LTD., has re-used the stand it had at the London Exhibition last year. It is the T.D.A. rigid frame construction in the form it might take if incorporated in a small church or village hall. By using lengths of solid timber connected by hidden steel plates and timber connectors, it attains many of the advantages of laminated construction, but is much cheaper.

The T.D.A. has developed a system of house construction using thinnings. Thinnings are young trees thinned out from plantations. Even after the pulp and farm users have been satisfied, they are becoming available in increasing quantity. To demonstrate the practicability of using these for building, a constructional model is shown of a two-storey house.

A talking model of a house shows how flexible the design of an upper storey in timber can be, using a very few different standardized panels based on a 6in module. When I asked why 6in was preferred to the increasingly popular 4in, the representative said that they are looking into a redevelopment of this in terms of 4in.

The 25ft-high lamp standard is there in model form. You will remember that it consists of a 21ft-high "H" section of timber forming the stem, on a reinforced concrete base stub. The cross-head is laminated timber. Now that the C.I.D. has approved the design, it is available for use on Class "A" streets. When I asked about its durability I was told that, since the proposed wood is RED MERANTI, a very durable Malayan hardwood, the standard's life should be as long as one in concrete.

The treatment of wood against infestation and flame spread is featured by J. GERRARD & SONS, LTD., who are Manchester general building contractors. When timber is "Tanalised" against infection the "Tanalith" is vacuum pressure impregnated. First of all a vacuum pump extracts air from the cell cavities of the timber. Then the timber is flooded with preservative under pressure, achieving a deep impregnation. Since the cylinders, into which the timber is put for treatment, are up to 100ft long by 7ft 6in diameter, they will take any scantling that an architect is likely to require. Quite frequently made-up joinery, windows, door frames, etc., are put in whole for treatment. No special primers are necessary before painting, said the representative, and painting and polishing are done just as on untreated wood. "Tanalising" costs approx. 1s 3d per cubic foot.

Protection against flame spread is demonstrated by four bunsen burners heating a mild steel plate to 500 deg C. On this are two chunks of softwood, one of which has been treated with "PYROLITH" flameproofing. Very soon the untreated block is blazing merrily away and after half an hour is entirely burnt out, while the treated piece has become charred part way through, but with no sign of flame. This treatment costs about 4s per cubic foot.

Since S. W. RONALD & CO [LONDON], LTD., introduced "FURAL" at London last year this ingenious form of aluminium roof covering and wall cladding has been specified for houses, flats, factories, garages, etc., throughout the country. You will remember that it works on a

## Manchester Building Exhibition

"zip fastener" principle, whereby strips of aluminium with dove-tailed section ribs are quickly rolled on to aluminium strips of similar shape and are thereby locked as they are laid. Two new finishes have been introduced, "PYLUMIN," a dark grey, and "ALOCROME," a watery greeny-grey. These colours are obtained by dipping the aluminium in a dye. No one knew how long the colours would last. The roofing with natural finish works out at about 22s 6d per sq yard laid.

When THE FRANKI COMPRESSED PILE CO., LTD., were working on recent contract outside London they installed one foundation specially to dig up again and exhibit. Here we have it, a 17ft-high section of the lower part of a Frankipile foundation, complete with bulbous base. It looks too good to be true—I was sure it was plaster of paris—but there it is, the three tons of 1:2:4 concrete, even to the 6 × ¾in bars reinforcement sticking out at the top.

From roofs and foundations to walls.

"BELLROCK" preformed plaster panels, now universally known, I suppose, though they have been going for only five years, have been developing of late as load-bearing walls for two-storey house construction. This is the theme of ROBERT CARLYLE & CO., LTD., MANCHESTER, builders and public works contractors, who are the manufacturing licensees for "BELLROCK" in this area. Although the D.S.I.R. are building some houses at Brighton using this construction as a test, several contracts have already been let. The "Bellrock" is exhibited in its load-bearing form as the internal skin of a cavity wall with 4½in brick external wall. This, with a 2in cavity, is credited with a "U" value of 0.24. It can also be used as a party wall formed out of two 4in skins with a 1in cavity between. The cost is claimed to be competitive, with 75 per cent to 80 per cent saving in time, since the panels have the final smooth face and only require making good between, and to any dents caused accidentally. Another structural development of "Bellrock" is a single external block, 5in thick, having a keyed external face impregnated with bitumen emulsion and then rendered. In order to obtain additional heat insulation, the honeycomb is filled to within 1in of the outside skin with foam plaster, giving a "U" value of 0.15. This is in the development stage also, but one bungalow has already been built by this method.

"PARAMOUNT" dry partitioning and "STRAMIT" strawboard, both much used for preformed partitions, are shown on the stand of ALVIN MORRIS & CO., LTD., wallboard importers and distributors of Manchester, Leeds and Sheffield. Here is a comprehensive array of the most up-to-date products now available. The floor is "WEYROC." "FORMICA" applications are shown in stereoscopic 3-D units made of colour photographs, a most convincing way of showing the product in use. "LACONITE" stove enamelled hardboard is now much used for positions where easy cleaning and washing down is required, such as bath panels. It can be had in a linette pattern formed by paper with this pattern stuck on and overlaid with "MELAMINE" plastic.

In one year a small team of men built well over a hundred 900 sq ft "TOWNSON" houses, represented on the stand of WILLIAM TOWNSON & SONS, LTD., OF BOLTON, who are civil engineers and building contractors. They have sponsored and built many thousands of these houses, designed by Grenfell Baines. The system of construction is simple and makes use of an external cavity wall with an external skin of 3in-thick patent concrete blocks, and an internal skin of 4in load-bearing breeze blocks. The house uses all the conventional building trades, is readily adaptable for other types of design and can conform with differences in local authority byelaws. They claim outstanding economies in construction and maintenance.

Wood wool slabs are the basic product shown by CENTURY WALLBOARDS, LTD., OF STOCKPORT. The stand consists partly of a building made of wood wool slabs and concrete posts built by amateurs. The bottom concrete rail, laid on the ground, avoids the necessity of setting posts into the ground. The wood wool slabs are rendered. The idea is aimed at farmers who should find it very suitable for farm buildings built with their own available labour.

The virtues of vermiculite are shown by DECORATORS (LIVERPOOL), LTD., who are Licensees of Pyroc. The main properties, which are well known, are high thermal insulation with consequent anti-condensation uses, fire resistance, acoustic protection and lightness.

The resilient plastic, "MELAMINE," applied to hardboard is the basis of CELLUGLOS PRODUCTS AND PANELWOOD, LTD.'S show. They report that a ship-building firm, after testing, has assumed these panels to have a life of at least 20 years. The makers specially recommend the panels as wall surfaces for lifts, bathrooms, ship interiors, caravans, etc., though they do not limit them to these uses only. They may be had in a variety of patterns including tile or photographed wood grain, in gloss or matt finishes.

Among the constructional examples exhibited by the LINOLEUM MANUFACTURERS' ASSOCIATION is one of lino laid on an old concrete floor, supposing you were converting part of a factory into a canteen. Here, ¼in thickness of asphalt is first laid over the concrete as a continuous d.p.c. and levelling medium. The lino is then stuck down direct to the asphalt. I was interested to hear that when lino is stuck down its wearing life is three times that when it is just laid without sticking. Linos are available in a great variety of colours including bright ones.

Two of the products shown by SEALOCRETE PRODUCTS, LTD., are new since the 1953 London Exhibition. "SEALOPLAS" flooring is a completely new plastic flooring containing no conventional building materials. Claims are that it can be laid without expansion joints, that the surface is warm and the floor rotproof, flame and vermin resistant. It is available in a great variety of shades and can be laid easily by plasterers or floor layers at 60 yards super per 8-hour day. The other new product is "SEALOCRETE MORTAR PLASTICISER," a liquid which, they say, gives a better job at a cheaper price when incorporated into a mortar or rendering. Briefly, it reduces damage by frost during the life of the mortar or rendering, and reduces tendency to craze.

"FABRILOC" is a new type of parquet floor, laying several blocks at a time which are preassembled into interlocking panels. This system eliminates any adhesive in laying, and a herringbone-patterned floor can be laid at considerable speed on any existing level surface whether wood or screeded concrete. The floor is demonstrated by PANEL PARQUETRY, LTD., OF RHYL, NORTH WALES.

At one end of the hall CONDRUP, LTD., are demonstrating the "FLASH-HAMMER" by firing, when you are least expecting it, bolts and nails into brick, concrete and R.S.J.S. At the other end BUCK & HICKMAN, LTD., are performing likewise with the "RAPID HAMMER," a similar gun converted to peaceful purposes. Between them, these weapons create enough diversion to keep the nerves working overtime, especially when it is added to the occasional music while you work, which is pretty deafening in some parts. I suggest that another year the manufacturers of acoustic absorbents could become public benefactors and at the same time demonstrate the efficiency of their products on these items, including the music while you work.

While "FLASH-HAMMER" and "RAPID HAMMER" are loudly proclaiming how they produce economies by eliminating time-wasting drilling and plugging, PHILPLUG PRODUCTS, LTD., explain how "PHILPLUG" asbestos fibre inserts save time, labour and money, and the RAWLPLUG CO., LTD., demonstrates the most efficient methods of making firm fixings by drilling and plugging. Beyond the Brownall Compression fittings, which cover the range of ¼in to 6in tube, DONALD BROWN (BROWNALL), LTD., are also exhibiting a wide range of non-ferrous tube fittings and attendant bench tools.

BROADS MANUFACTURING CO., LTD., who are displaying a comprehensive range of specialist products, chiefly to do with refuse and drainage, told me that the Broad-Acheson building block output has been nearly doubled and that this can now be obtained from stock.

Most of the gallery is taken up by two exhibitions. One consists of demonstrations by apprentices in their trades,

together with finished work on show. The other is the MINISTRY OF WORKS exhibit, "Teamwork in Building." It starts by stating the client's needs, what information the architect requires before designing. It stresses the part of the scientist and specialist consultant. From the planning aspect it moves to construction. Good site organization is explained. Sample programmes are given, and models of the more frequently used machinery. Also in the gallery are J. HALDENT & CO., LTD., OF MANCHESTER, demonstrating the components of an efficient drawing office. A new photo-copier is on show as well as a selection of drafting tables and storage units.

Finally, a further word on the stands. As you walk around at ground level there is the usual intermingling of efficient and not so efficient displays. Not many very bad stands, but also not many very good ones.

When you go up to the gallery and look down the confusion is abundant. Very little thought can have been given to the view of individual stands from here, and probably none to the view of the exhibition as a whole. It might have been fair enough if the stands had been jungle-like, fighting upwards, some with hearty vulgarity and others with serene modular disdain, since it would have symbolized the competitive element of the exhibition. But when you see the forgotten parts of roof after roof, intestinal electric wiring winding in and out over rough timber skeletons, which may be quite attractive from below, it just looks an inconsidered muddle. True, there are some thoughtful ones who play to the gallery, but these are very few. Unless there be some overall co-ordination—benevolent, not heavy-fisted negative control—the exhibition gets out of hand and loses so much thereby.

London realized this and has been improving of recent years, though, goodness knows, it still has far to go. I expected better of Manchester, and only hope that something will be done about it next time, on the occasion of their coming-of-age, their 21st. After all, used it not to be said that what Manchester thinks to-day —?

# *R.I.B.A. CONFERENCE ON HEALTH BUILDINGS*

Report by ALEXANDER GRAY, F.R.I.B.A.
Watkins Gray and Partners.

A TWO-DAY Conference was held last week at 66, Portland Place attended by members of the medical, nursing and architectural professions.

In opening the first session under the chairmanship of Mr. C. H. Aslin, President of the Royal Institute of British Architects, the Right Honourable Iain Macleod, M.P., Minister of Health, referred to the increasing emphasis on out-patient departments reflected in the increased proportion of capital expenditure for this purpose.

The Minister announced that the publication by the Ministry of Health of bulletins upon hospital design would commence shortly. These are being prepared in consultation with doctors, nurses and architects outside the Ministry. These bulletins, the Minister said, would not present any rigid solution but would be a guidance on space standards and would reflect the best of current practice both here and abroad.

Sir John Charles, Chief Medical Officer, Ministry of Health, in referring to the new bulletins said they would not represent the views of Ministry officials nor would they produce a standard solution, but would "provide practising architects with the tools of design."*

These bulletins would also cover local authority work such as health centres.

It was intended that hospital design should be moulded at the level of Regional Boards and Boards of Governors. Sir John Charles referred to the effect on planning of financial control and reminded the Conference that money is only voted by Parliament annually for this purpose. He also was well aware that it was not considered by many hospital authorities to be the ideal way of planning capital works. Arrangements had been made, however, for the capital expenditure available in any financial year to be announced during the previous summer. This was, of course, always subject to the allocation being finally approved by Parliament. Sir John suggested that Boards of Governors should consider adopting the form of contract used by local authorities.

In the building of hospital extensions provided from non-exchequer funds it must be remembered that the Minister must answer for the use of the building no less than if he provided the capital. The machinery of planning was referred to and Sir John Charles emphasized that a committee should be kept small to obtain the best results.

* R. Llewelyn Davies in a Nuffield Report

Mr. S. W. Barnes, House Governor of King's College Hospital, London, stated that a planning committee consisting of representatives of doctors, nurses and specialists together with the architect was not enough. If it was to be both effective and practical its work should be directed by a person experienced in hospital management and preferably in hospital construction. Otherwise a scheme which was either impracticable or over costly would result, and the plans would be greatly modified at the end or come to little as so often happened in the past.

Captain Stone of the King Edward VII Hospital Fund for London and the International Hospitals Association, said he thought that the administrator and the architect should set to work calling in doctors, nurses and others to ascertain their requirements, to keep a check on the whole scheme to avoid excessive demands. The plans should be circulated and finally signed after which no alterations should be allowed. This subject was referred to from time to time during the conference and evoked some opposite views.

Under the chairmanship of Mr. J. H. Forshaw, Chief Architect to the Ministry of Housing and Local Government and to the Ministry of Health, Mr. R. Llewelyn Davies, B.A., A.R.I.B.A., Director of the Division of Architectural Studies, The Nuffield Foundation, said we are not getting, by and large, the answer to a synthesis which is not quite good enough. We must have a list of requirements; a list of rooms was merely an additive. An architect must have some understanding of what goes on inside the hospital. He paid a compliment to what was being done in the United States, often on the basis of trial and error, and added that it was realized there that this was not filling the bill. They had coined the word "multi-disciplinary" in describing the study of hospital functions shortly to be undertaken.

Mr. Llewelyn Davies continued by saying it was necessary to free the imagination of the architect so that he can make his contribution to the inner life of the hospital. He described the recent development of the hospital plan as the matchbox on a muffin type; as an example of this he gave St. Lo Hospital, Normandy, by Paul Nielson. Replying to a request for further Nuffield reports, Mr. Llewelyn Davies said that a full report will be published in the spring of 1955.

Sir Arthur Stephenson, F.R.I.B.A., F.R.I.A.A., Royal

## Health Buildings

## Conference Report

Gold Medallist and Architect of the Melbourne Royal and other great Australian hospitals, made a moving appeal for right thinking in hospital planning. He said there should be thoroughly competent management at the hospital the purpose of which should be to reduce cost to an absolute minimum, and the various services must be analysed to show the real requirements. The three factors which govern the task of the management and architect were:

(i) The economics of planning.
(ii) The economics of operation.
(iii) The economics of maintenance.

With regard to the economics of planning, Sir Arthur said the first principles are the decentralization of the nursing services and the centralization of the administrative services. These are economics that affect labour, remembering there is no substitute for a well-trained nurse, doctor or other personnel.

The economics of operation are dependent on the equipment, remembering that quality is appreciated long after the cost is forgotten.

The economics of hospital maintenance or current expenditure depend on the integration of the services of the department, remembering that the work of each member of the staff and each department must fit into the whole in order to reduce costs and to provide equipment of the highest class; we must remember we are not standardizing the hospital by standardizing the equipment. Above all, provide first-class lift services, make provision for increased use of central sterilization and so on.

Dr. Maitland, Principal Medical Officer, concerned with hospital planning and administration of the Ministry of Health, in a warning against over-enthusiastic planning to suit an exaggerated statement of requirements, reminded the Conference that there is a wide distinction between demand and need and that it was the duty of those building up the programme for a hospital to assess the true need.

He also referred to the diminishing requirements for children's wards and the increasing requirements for the aged. Mr. M. E. Molander, Director of the Central Hospital Planning Bureau of Sweden, brought relief to this strictly practical discussion by pleading for a consideration of the effect of the hospital upon the landscape. He showed a sketch of a large hospital in mountainous landscape and the same hospital drawn in an old town, pointing out that whatever conclusions may be reached by strictly practical research into function the situation of the hospital should be considered in arriving at the final result; not only is the effect of the surroundings upon the hospital patients important but also the effect of the hospital upon the surroundings.

Mr. Birch Lindgren, of Sweden, supported this theme and warned that the hospital must not be bigger than absolutely necessary, saying that each department must be planned so that work in it could be carried out to keep pace with the other departments. By this means all the hospital would function economically and would not be occupied unnecessarily by patients waiting for diagnosis or treatment. Mr. Birch Lingren during later discussion said that the first requirement of a hospital architect was knowledge of the work of the hospital; the second requirement was knowledge and more knowledge and the third requirement was more knowledge.

The height of the operating theatre was referred to and the hope expressed that researches into the lighting of theatres carried out recently in Birmingham and Paris would result in the theatres being satisfactorily accommodated within the normal ceiling height.

A plea was made for the wider spread of information by the publication of hospital plans and details from all countries.

At a session with Mr. Maxwell C. Tebbitt, A.R.I.B.A., in the chair Miss Theodora Turner, Education Officer, Birmingham Centre of Nursing Education, introduced her paper.

Miss Turner reminded the Conference that contentment of the patient contributed to the smoother running of the hospital and advocated the grouping of wards to allow trained staff to function if temporarily reduced in numbers.

Miss Turner explained two systems of nursing wards, either by group assignment or by job allocation. She criticized the ward unit in the Nuffield experimental unit on the grounds that fewer sisters would be required, whereas if the wards were to function efficiently they would need a relatively larger number of staff nurses than under the present pattern.

Miss Turner stated that if the number of ward sisters' posts were reduced hospital nursing would suffer in quality, particularly as the British sister would not be content with the position of the head nurse working under an administrative or department sister as in America.

The X-ray Department, Miss Turner considered, should be, if anything, more accessible to the wards than to the outpatient department as patients have to be brought to it from the wards on wheel beds.

More space should be given to the parking of wheel chairs and trolleys.

Miss Turner referred to the full-size mock-up which had been used in Birmingham to assist in a final decision on planning before building. This was well worth while.

During discussion Mr. Stanley Milburn referred to the "race-track" ward unit recently devised in the United States. This consisted of a central bank of service rooms and sanitary rooms mechanically ventilated and artificially lit with a double corridor and double bank of wards surrounding it. This introduced the important question of mechanical ventilation and artificial lighting. Mr. Llewelyn Davies said that researches of his team had not yet included an examination of the medical and psychological effect upon the staff of such planning.

Professor Vines said that such studies were possible and could be usefully undertaken. Mr. Alexander Gray, F.R.I.B.A., referred to this question as one which affects the planning of hospitals more profoundly than may be at first supposed. Latest experiments in ward planning still indicate a confusion in the use of natural and artificial means of ventilation and lighting, with the result that most plans use both methods imperfectly. Some more definite conclusions upon this would lead to much simpler planning.

Mr. Llewelyn Davies referred to Mies van der Rohe's return to simple forms with no concession in structure to special planning and perhaps the pendulum might swing in that direction. Dr. J. O. F. Davies, M.D., B.S., M.R.C.S., Senior Administrative Medical Officer, Oxford Regional Hospitals Board said that the Oxford Regional Hospitals Board owed a great deal to the Nuffield Investigation which had undertaken special projects in the Oxford Region.

In planning to meet the newer requirements of the hospitals he instanced the reduction in the length of stay of patients which had taken place in general hospitals and he hoped that new methods of care would eventually replace the demands for larger numbers of beds by the chronic sick.

On the discussion in the earlier paper he stated that general practitioners in the Oxford Region were given facilities for X-ray diagnosis and pathological tests at the various hospitals and he had not found that this had been a too difficult undertaking.

On the question of ward planning he stressed that the need was to relieve the alarm and fears of the patient. He questioned whether high blocks of wards gave the comfortable and kindly feeling which was needed.

However, regarding the number of beds in the ward unit he agreed with Miss Turner and the nursing profession that 30 beds is the maximum number for which the ward sister should care.

The number would probably be lower in children's departments and of course the cots should be provided in simple rooms and small wards.

Maternity beds might also be provided in small wards and the mother and baby kept together so that fewer nurseries would be necessary.

The services in the out-patient department would develop more and more and extended X-ray and laboratories would be needed to meet the new out-patient demand unless the main departments could be extended.

In Dr. Davies' view there were advantages in having the casualty department with the out-patients and he reminded the Conference that this department is staffed mostly with junior medical officers. The casualty department would also require two operating theatres, one clean, one dirty, and an operating theatre would be needed in the out-patient department for surgical and orthopædic cases.

In dealing with the claims of stacked operating theatres against those grouped horizontally he drew attention to the need for adequately equipped recovery wards.

Mr. Donald A. Goldfinch, F.R.I.B.A., Architect to the Birmingham Regional Hospital Board, gave a summing up of the papers read during the two days' sessions and further useful discussion took place.

Summing up the discussion Captain Stone said that so much of what had been said had been discussed at previous conferences. The difficulties of hospital planning should not present too gloomy a picture.

*Extracts from the first paper to be read at the Conference follows. Extracts from the other papers will appear in next week's issue.*

# The General Design Problems of the Hospital

By R. LLEWELYN DAVIES, B.A., A.R.I.B.A.

Director, Division for Architectural Studies, Nuffield Foundation.

### The Ward

IF the annual *in-patient* demand in a particular specialty is on average $n$ patients, then the *critical* number of beds—which must be slightly exceeded in practice—is

$$x = \frac{n \times L}{365 \times a}$$

where $L$ is the average length of stay, and $a$ is the occupancy rate achieved *when there is a waiting list*, i.e. rate due to administrative efficiency. For example, suppose $n = 400$, $L = 10$ and $a = 0.8$, then

$$x = \frac{400 \times 10}{365 \times 0.8} = 13.7$$

In order to have a *finite* average waiting time the critical number must always be exceeded so as to allow for fluctuations in demand and length of stay. We should require about 15 beds in this case to attain reasonably good working conditions. The number needed in relation to waiting time and queue length has been studied by the Investigation. It should be noted that the determination of average length of stay and occupancy rates must be considered in relation to the particular specialty and local conditions. National averages are not satisfactory for this purpose. Similar considerations apply to out-patient departments.

The number of *out-patient* sessions to be provided for can be calculated from the weekly demand. This must be done for each specialty separately. If $m$ is the average weekly demand for consultation then the *critical* number of sessions required will be

$$y = \frac{m \times t}{s}$$

where $t$ = average consulting time in minutes, and $s$ = the total length of each session in minutes. For example, suppose there is a demand for 120 attendances weekly in one specialty, the average consultation time is 5 minutes and the length of the session is 150 minutes, then $y = 4$ sessions per week. This is the critical supply, which must be somewhat exceeded in practice.

Seasonal fluctuations, as distinct from ordinary random fluctuations from day to day, have to be considered separately. With out-patient departments we may be able to analyse data quarter by quarter, say, and show how different provision is required according as the *average level of demand* is high or low.

From the sessions per week the number of consulting suites can be calculated. For example, suppose provision is required for the following sessions:

| Clinic | No. of Sessions per Week |
|---|---|
| 1. General medicine | 14 |
| 2. General surgery | 17 |
| 3. Gynæcology | 8 |
| 4. Dermatology | 4 |
| 5. Psychiatry | 8 |

Supposing that each consultant in general surgery, general medicine, and dermatology required the use of two rooms, the gynæcologist the use of four rooms and the psychiatrist one, then we have:

| | |
|---|---|
| General Medicine, General Surgery, Dermatology | 35 sessions per week requiring 2 rooms |
| Gynæcology | 8 sessions per week requiring 4 rooms |
| Psychiatry | 8 sessions per week requiring 1 room |

Thus a four-roomed general purpose suite would be required as follows:

| | |
|---|---|
| General Medicine, General Surgery, Dermatology | 17½ sessions |
| Gynæcology | 8 sessions |
| Psychiatry | 2 sessions |
| | 27½, say 28, sessions per week |

Three four-room suites would therefore be needed, providing an available weekly total of 33 sessions. A complete four-room suite would be unused for 5 sessions per week. This extra accommodation would probably be needed in order to allow for flexibility in the clinic programme. These calculations are based on the idea, supported by some of the Investigators' studies, that a standard consulting suite can be used at different times by different specialties. If accommodation is reserved solely for the use of a particular specialty, many more rooms would be needed and much of the accommoda-

## Health Buildings Conference Paper

tion would be unused at any given time.

Thus it is possible to calculate the provision to be made in terms of beds and consulting suites to meet a given demand, or conversely to say what load of cases given accommodation can be expected to cope with.

The Investigation's case-load studies give some indication as to the load to be expected on the special departments; they show, for example, how many X-rays of different types were called for by the out-patient and in-patient services during the period under survey and give similar information with regard to pathology and operating theatres. As, however, no data is available on the time needed for taking X-rays, making pathological tests or carrying out operations, it is not possible to use figures for demand as a guide to provision.

The arguments for stacking wards vertically, one above another, are quite strong. The majority of wards can be identical in plan and this lends itself to economical structural design, with bearing-walls or columns running unbroken through the height of the building. The same services, supplies and arrangements for disposal are required at the same point in each ward. Vertical plumbing stacks, pipe-runs and service lifts can therefore be planned to serve a large number of wards, placed one above another. Vertical planning can give good outlook, unobstructed sunlight and ventilation to all wards. Such considerations have led many architects, particularly on the Continent and in the United States, to design tall ward blocks, even on country sites where space is more or less unlimited. In this country, while high vertical blocks are used on restricted sites, there is a tendency to look for compromise solutions where more space is available.

In considering the different forms which a ward block may take, the position of the main vertical circulation, containing stairs and bedlifts, is critical. It is now a recognized principle that each ward should be a cul-de-sac and should not be used as a corridor for traffic to other wards or other parts of the hospital. Thus, each ward must have direct connection to the point of vertical circulation. Fig. 1 shows four arrangements to give one, two, three or four wards on each floor, served from one main staircase and lift-shaft. The more wards per floor, the lower will be the overall height of the ward block for a given total number of beds and the greater will be the use made of the lifts and stairs. Broadly speaking, the more beds per floor the more economical will be the building, both in first cost and in maintenance. The arrangement at A, Fig. 1, has only one ward per floor, and has been used in several new hospitals in Scandinavia. Arrangement B, Fig. 1, is often used for hospitals of medium size, recent examples being at St. Lô in Normandy and the new hospital for Swindon, Wiltshire. It gives more beds per floor than arrangement A, while maintaining the great advantage that the views from all wards are unobstructed and all have equally good sunlight.

Arrangement C, with three wards per floor, has been proposed for larger schemes, such as the very large new hospital at Helsinki, Finland. It provides more beds per floor than type B but is less satisfactory from the point of view of outlook and orientation. The cruciform block, type D, is advocated and used by the French architect Jean Walter. While it provides for the maximum number of beds to be served from one circulation point on each floor, view and sunlight are much ob-

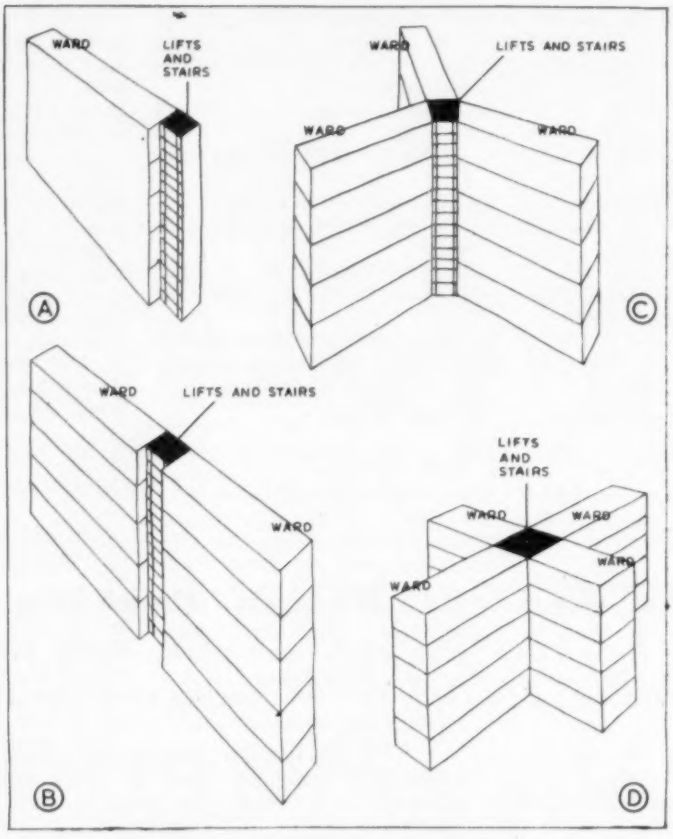



*Fig. 1. Various arrangements for multi-storey blocks.*

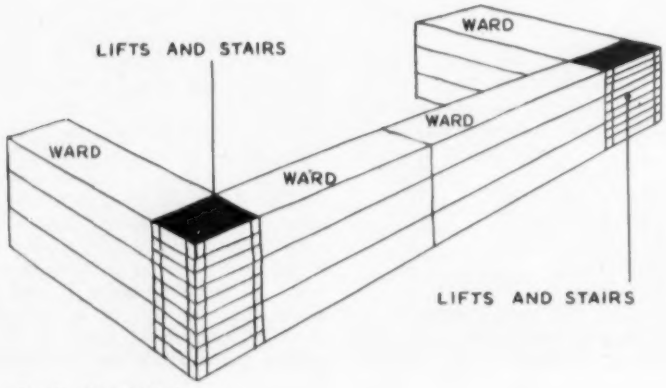



*Fig. 2. Ward block.*

structed, the outlook from windows near the centre of the block is very forbidding, and a disagreeable character is created in the rooms.

In this country, where there is some sentiment against tall buildings, arrangements such as that shown in Fig. 2 are sometimes adopted, in which a number of blocks three or four storeys in height are strung together. If the cul-de-sac principle is maintained this results in several points of vertical circulation, each of which has to have stairs and bedlifts. Circulation at ground level is complex, as access to the foot of each staircase has to be provided not only for people but for a considerable variety of supplies coming from different points.

The total number of beds required in the hospital and the limits set to the height of the building are generally the crucial factors in determining which solution is adopted. The limits to be set for height are difficult to fix and technical considerations in themselves do not provide any clear answer. At one time, fire risk was thought of as setting a height limit but this is no longer so to-day. It is now felt that the essence of fire protection is the provision of separate compartments on each floor so that evacuation can be made horizontally, and so long as these compartments are provided there is no need to limit the height of ward buildings on the ground of fire hazard. Attempts have been made to relate the height of buildings to constructional cost but such studies as have been made have been inconclusive. Again, little is known about the economics of lift provision, but there are strong arguments in favour of concentrating the lifts in a single vertical shaft rather than distributing them at different points in the building. Thus a single, tall ward block is preferable to several blocks of medium height from the point of view of lift service. In practice, height is generally fixed by less tangible considerations, such as the appearance of the building on the site or in relation to neighbouring buildings and landscape. It is generally agreed that it should be an aim in hospital design to achieve a friendly and reassuring character rather than an imposing or institutional one and tall buildings have been criticized as having a terrifying effect. These are considerations which the architect must weigh, but for which rules should not be laid down.

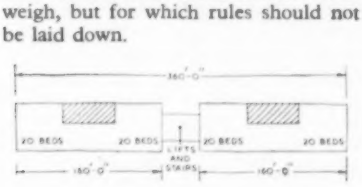



*Fig. 3.*
***Arrangement of four 20-bed nursing unit.***

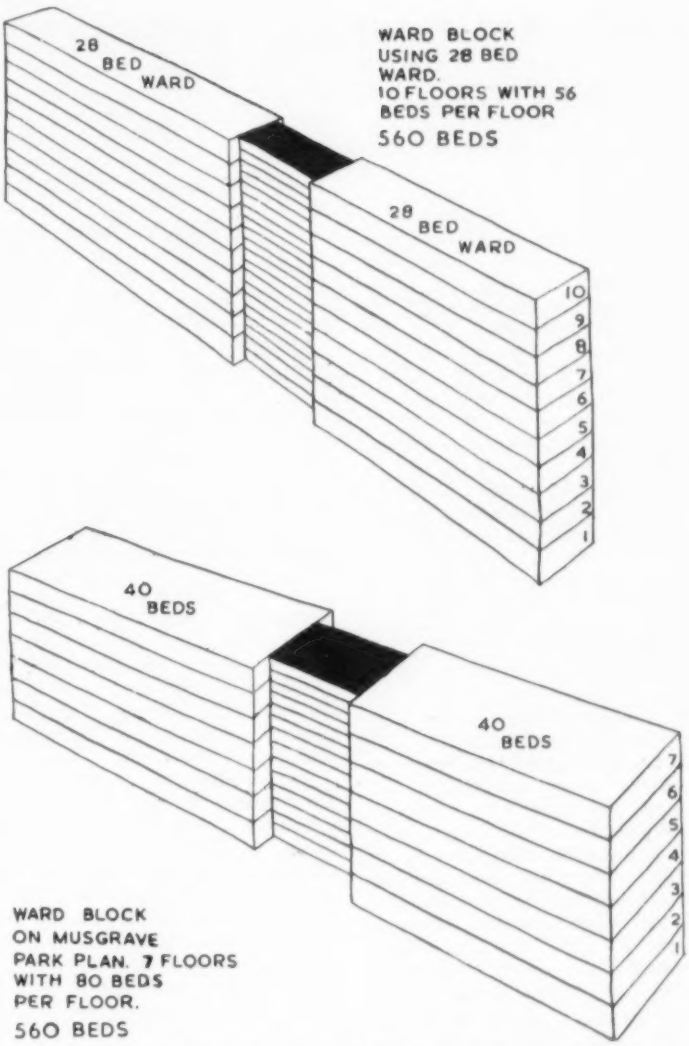



***Fig. 4. Two differing ward blocks each containing the same number of beds.***

The number of beds in the ward or nursing unit has important implications in determining the best form for the ward block. Current planning is based on a ward size of 25 to 30 beds, 28 beds being sometimes recommended as a compromise between nursing requirements and economy. Following the recent job-analysis of nursing carried out by a team sponsored by the Nuffield Provincial Hospitals Trust and the experiments in nursing sponsored by the Ministry of Health's Standing Nursing Advisory Committee, a new approach to nursing organization is developing. This approach, which will no doubt be discussed in another paper, is based on the idea of group case assignment. Under this system of nursing, a group of beds forming a nursing unit is made the responsibility of a nursing team, led by a trained nurse, several such units being grouped together into a larger administrative unit under a sister. This approach has revolutionary repercussions for ward planning, and the Investigation's experimental ward buildings in Scotland and Northern Ireland have been designed with this form of nursing in mind. The Scottish example is based on a nursing unit of 16 beds and that in Northern Ireland on a nursing unit of 20 beds. Fig. 3 shows how four 20-bed units can be grouped on a floor, giving a total of 80 beds. This 80-bed unit need be no greater in length than would be a block containing a pair of "traditional" wards housing perhaps 56 beds. The extra accommodation can be obtained partly by compact planning and partly by increasing the thickness of the building. That greater thickness is practicable from the point of view of ventilation and daylighting has been shown by studies made at the Building Research Station.

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For a hospital of given size, an increase in the number of beds per floor reduces the number of floors, and thus the total height of the ward block. For example, in Fig. 4 both blocks contain the same number of beds; one, which has 28-bed wards, is 10 storeys in height, the other, based on the Musgrave Park plan, is only seven. Of the two, the seven-storey block would cost considerably less to build, and since it has three floors less there would be a reduction in lift stations, service points and service rooms. Being more compact, it provides more floor space per sq ft of external wall and is cheaper to heat.

Apart from the economic advantages, the ability to place more beds on each floor increases the designer's freedom in the choice of building form. For example, arrangement B, Fig. 1, is often the most desirable. In practice its use is limited by the fact that if the requisite number of beds is provided a building exceeding an acceptable height may result. If so, the designer will be driven to accept other arrangements less satisfactory from the point of view of amenity or circulation. If, however, he can get 80 beds instead of 56 on each floor, he can accommodate many more beds within a given height limit and he may often find it possible to use arrangement B where he would not be able to do so with traditional ward planning. Similarly, the more compact ward plan reduces the spread of single-storey layout.

It appears that a broader view should be taken of orientation in hospital design, and that the aim should be reasonable standards throughout the hospital rather than that the patients' bedrooms should face south at the expense of the rest of the hospital.

It has sometimes been argued that the accommodation required in a ward building is likely to change so rapidly that the internal walls should be made demountable so that they can easily be taken down and re-erected in different positions. There is no technical difficulty in designing the structure of a ward block so that the internal walls are not load-bearing, and indeed this is done in most multi-storey hospital buildings. If the internal walls are built in a normal manner with bricks or blocks they can be demolished and re-erected elsewhere without affecting the structural stability of the building. Re-arrangement will, however, be a dirty and noisy business and will involve closing the ward or wards affected while it is being carried out. Alternatively, various forms of prefabricated partition specially designed for easy dismantling and re-erection can be used. These systems are considerably more costly than conventional partitioning. They also present serious problems in sound-proofing. Further, any major rearrangement of the ward is almost certain to involve changing the position of the services, including electricity, water, drainage and perhaps also heating and ventilation. Alterations of these services will mean taking up the floors or taking down the ceilings. Thus the fact that a demountable partition has been used will not necessarily avoid the need for substantial building work when alterations are made. To meet this difficulty it has sometimes been proposed that ward buildings should be constructed with a uniform grid of services, all of which would be available at any point. Such an installation would be extremely expensive and at any one time only a small proportion of the outlets would be used. Generally, any attempt to provide for a high measure of flexibility by changing the walls and services in a building is likely to be very costly and can only be justified if there is a reasonable certainty of substantial changes being made at frequent intervals.

The ability to meet changing requirements is thus fundamental to the design of out-patient departments. There has been a tendency to think of this problem in terms of the rearrangement of internal walls. While demountable partitioning may have application in certain cases, despite the problems of cost and noise, flexibility should be sought in the first place in planning rather than in special forms of construction.

### The Operating Theatre

On the whole, in recent years the proportion of theatres to beds has tended to increase. Provision should therefore be made in planning a new hospital for adding to the number of theatres without disturbing the rest of the accommodation. The theatres can either be grouped together or, as was often done in the past, they can be dispersed and placed close to the wards they serve, e.g., there would be theatres for general surgery adjacent to the surgical beds and a theatre or theatres near the gynæcological ward and near the eye and E.N.T. departments. The principal advantage of this arrangement is that the journey made by the patient from ward to theatre and back again is short. On the other hand, dispersed theatres have many disadvantages. More theatres will be needed if every department has its own; and many departments may have insufficient operations to make full use of their accommodation. Single theatres are more expensive to provide than paired theatres, which are able to share a great deal of the very expensive ancillary accommodation and services. It will be very costly to provide air-conditioning, piped anæsthetic gases and oxygen at a number of dispersed points about the hospital. The control of asepsis is likely to be more effective in a centralized operating department, where one highly experienced theatre sister is in charge.

Perhaps the strongest argument against dispersed theatres is that it is impossible to foretell exactly which wards will be occupied by surgical cases over a period of years. If a hospital is so designed that all wards have good access to a central group of theatres, then the maximum flexibility in the allocation of beds is ensured. Theatres can be grouped either horizontally or vertically. The vertical arrangement has the advantage that the supply from a central sterilizing department can be arranged by direct lift to all theatres. Further, it enables theatres to be connected on the level with a number of wards in a vertical ward block. Horizontal grouping has the advantage that it makes for easier control by a theatre sister over a number of theatres and can also provide for easy extension.

The provision of recovery rooms within the theatre suite is an important issue. Clearly, centralized theatres may be some way from the patients' beds and provision for some cases to be held back, after operation, in a recovery room within the suite will be desirable. On the other hand it is not certain that recovery rooms can be dispensed with where a theatre is fairly close to the ward. The purpose of a recovery room is to ensure that patients whose condition warrants it are kept under the eye of the anæsthetist and that full resuscitation equipment should be immediately available. These needs would not necessarily be met by moving them to an ordinary ward even where it is quite close to the theatre. Once the provision of recovery accommodation within the theatre is accepted, then the need for the theatre to be immediately adjacent to the ward becomes less.

The balance of advantage would seem to be with centralized rather than dispersed theatres for major in-patient surgery. In addition a minor theatre or theatres should be provided in the casualty or out-patient department.

**References:**

Vines, H. W. C. (1952). *Background to Hospital Planning*, London.
Walter, J. (1945). *Rennaissance de l'Architecture Médicale*, Paris.
*The Orientation of Buildings* (1933). R.I.B.A., London.

# Glass Age Development of Soho

*A scheme developed by G. A. Jellicoe, Edward D. Mills and Ove Arup at the invitation of Pilkington Bros. Ltd.*

LONDON'S Soho is bounded by Oxford Street on the North, Charing Cross Road on the East, Shaftesbury Avenue on the South and Regent Street on the West. The area it covers is some 83 acres. Within that area between four and five thousand people live at present. The new scheme would make it possible for the residential population to be doubled or trebled. The basic conception of this Soho of the Future is that the tradition of the existing buildings and amenities remain; that development takes place above and below the existing site with the minimum of interference to conditions as they are to-day.

The area within the site will be a pedestrian precinct, air conditioned and with the roads glassed over in a way similar to that of to-day's Burlington Arcade.

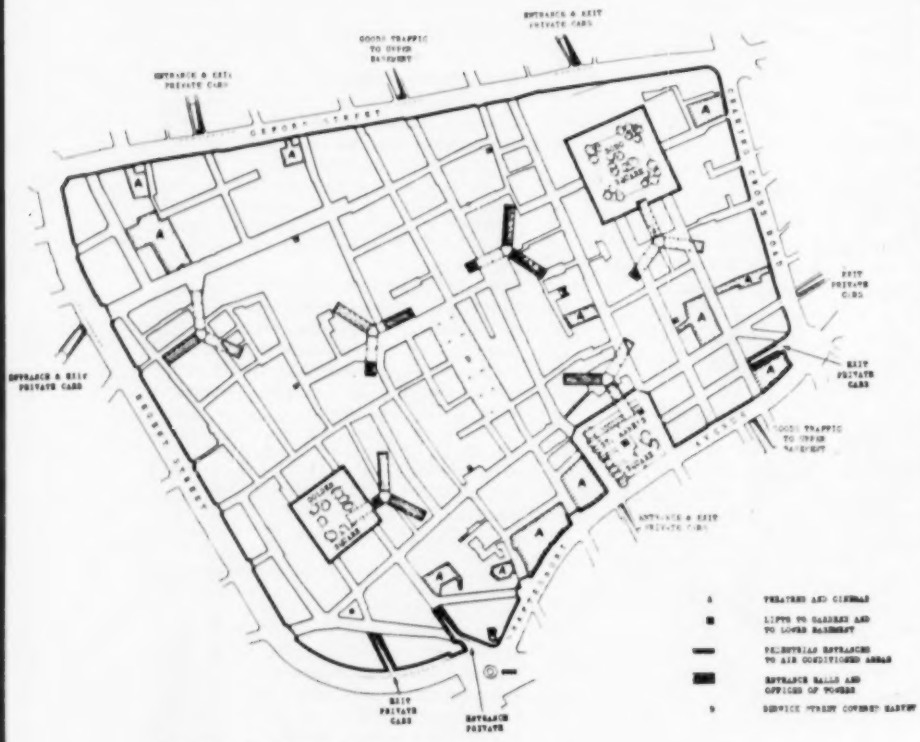
### Transport

Beneath the area two basements are conceived to cope with London's ever-increasing transport problems.

These basements will be mainly car access and car-parking areas, with entrance by sloping roadways on all four sides, tunnelling under the existing Oxford Street, Charing Cross Road, Shaftesbury Avenue and Regent Street. These sloping roads to the tunnels will

# Glass Age Soho Scheme

SOHO GARDEN LEVEL PLAN



SOHO STREET LEVEL PLAN

be continuations of such roads as Great Titchfield Street and Berners Street on the North, Wardour Street on the South, and Maddox Street on the West.

In the *sub-basement* there will be three types of car parks. It is estimated that parking for approximately 8,000 cars will be provided on the perimeter and for another 8,000 cars within the precincts, with further parking space for 7,000 cars for the flats.

Car parking accommodation is likely to be needed only for people residing in, or having business in, the Soho area. Others are likely to find it inconvenient to use the parks inside the area when making calls outside.

### Open Spaces

The Plan envisages no interference with the existing Soho and Golden Squares. A new square is created round St. Anne's church. The soil is not to be disturbed; tall trees are left and the Squares remain amenities. Excavations are not made beneath these squares for car parking. In the Soho gardens there will be sports areas as well as flower gardens.

### Glassed-in Roads

It is proposed that all the existing roads within the area shall be glassed over at roof level. The existing roads will be for pedestrians only. At the roof level, with the glass as a base, a canal system following the pattern of the roads is suggested.

Water in the canals would be eighteen inches deep, and some five miles in total length, and would provide an excellent new playground for boating enthusiasts. More than 200,000 square feet of glass will be needed to roof in the roads and construct the canals. People walking in the streets beneath will look up and see glass-bottomed boats and punts above them.

A glass swimming pool, the floor of which would be corrugated to give the impression of waves, is also visualized at this new level. People walking in the streets below will see people swimming above them.

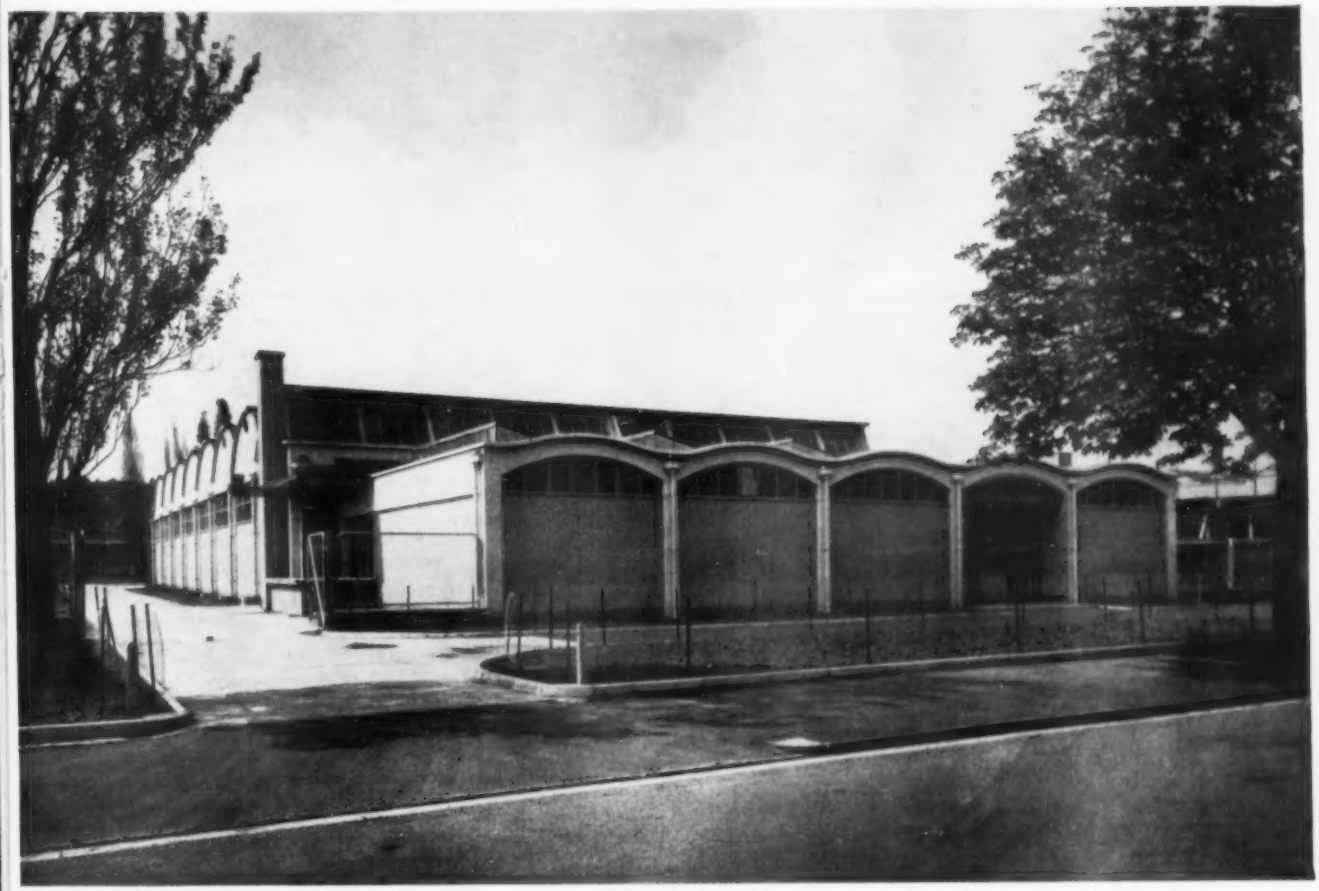
### New Flats

Six new blocks of flats, built on a three-pointed-star layout with central lifts, are proposed. They will be twenty-four storeys high, and will be both flats and maisonnettes.

Each tower would probably accommodate about 1,500 persons. By an ingenious arrangement of the flats and maisonnettes, the lifts will only stop at every third floor. There will, therefore, at no time be more than eight stops for a lift on any journey. The flats will be built on a unit construction. They are intended primarily for business people working in Central London who can leave London at week-ends for the country.

### Helicopter Garages

There will be garages for helicopters on the roofs of the flats. Allowance has been made for 60 such helicopter garages on each block. This number can be added to by increasing the height of the blocks.



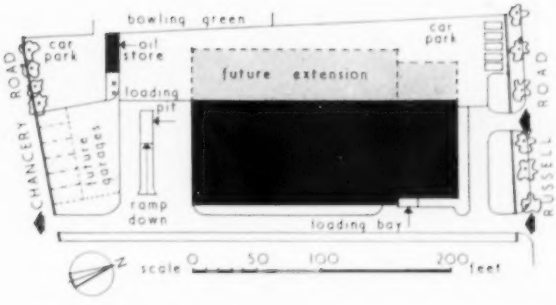
*Russell Road elevation*

# AGRICULTURAL REPAIR DEPOT, IPSWICH

## for Ransomes, Sims & Jefferies, Ltd.

architects: HARE & PERT, A/A.R.I.B.A.

consulting engineer: H. G. COUSINS, (for Chisarc & Shell "D" Ltd.)

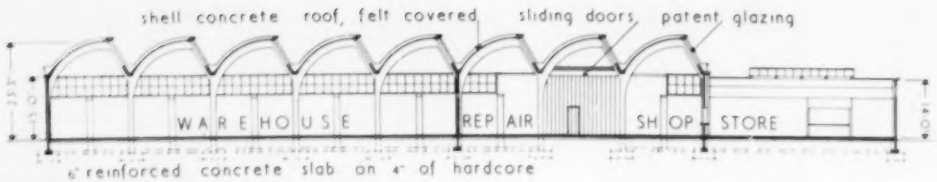



BLOCK PLAN

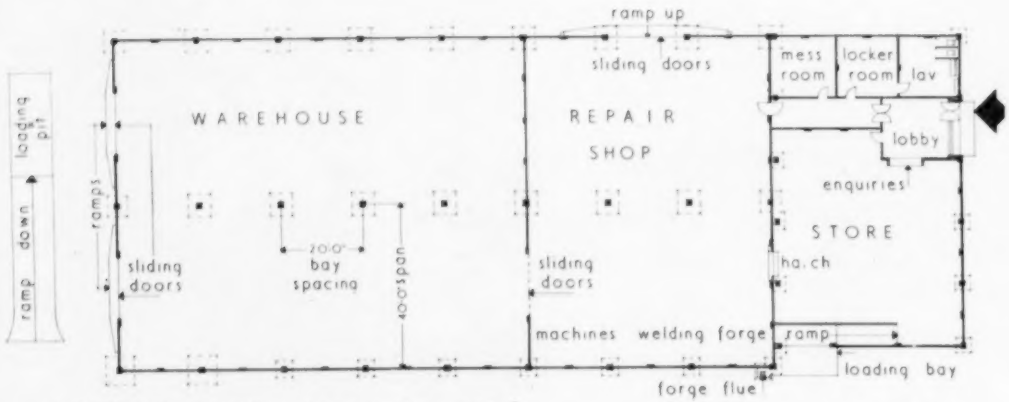
THE clients required a depot for the repair of agricultural machinery of all descriptions, and lawn mowers, and a large covered area for the storage of new implements for sale and of implements awaiting repair. Storage for spare parts and a small enquiry counter and staff accommodation were also required. No provision is made for offices or showrooms as these already exist in another part of the town not far from the site.

### Construction

The construction is of reinforced concrete throughout with barrel type roofs and 4½in brick (Uxbridge Flints) panel walls. Windows are also of reinforced concrete




LONGITUDINAL SECTION




LAYOUT PLAN, Scale: 1in—40ft

## Agricultural Repair Depot

and are made of three separate linking units to each bay. The external walls are built in panels, one to each bay, and are built into rebates with an adequate allowance for thermal movement of the concrete frame.

The semi-circular barrels to the front building are of the same radius as those used for the north light barrels thus permitting the same shuttering to be used in both cases. The barrels are covered with two layers of bituminous felt, the top layer of which has a mineral surface.

Two three-ton travelling gantries are provided in two bays of the repair shop and provision is made for a monorail to be fixed at a later date.

Floor finishes are of normal cement and sand to warehouse and granolithic to repair shop and stores on 6in R.C. base laid in alternate bays. There are no expansion joints.

Heating is by thermostatically controlled gas radiant panels, and is confined to the repair shop stores, and staff rooms. For this reason insulation is also confined to these areas and takes the form of lightly trowelled sprayed asbestos fibre on the underside of the concrete roofs. In the warehouse no heating is provided and the concrete of the barrels is left from the form.

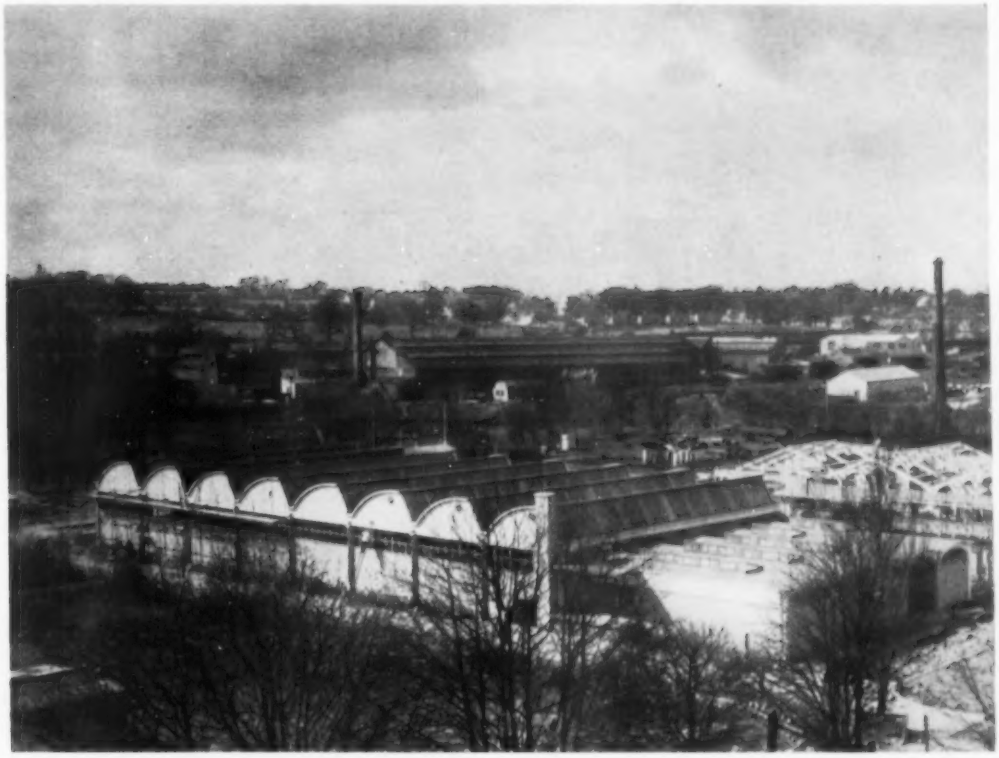
Ventilation is by metal opening lights set in the concrete window frames and by exhaust fans set in the end frames of the barrels.

All electrical wiring is concealed in conduits encased in the concrete during pouring. Lighting is by a mixture of fluorescent and tungsten lights and care was taken to use the underside of the barrels as reflectors, thus making a very even spread of light over the whole floor area.

### Decoration

External colours are :—bricks golden brown with dark

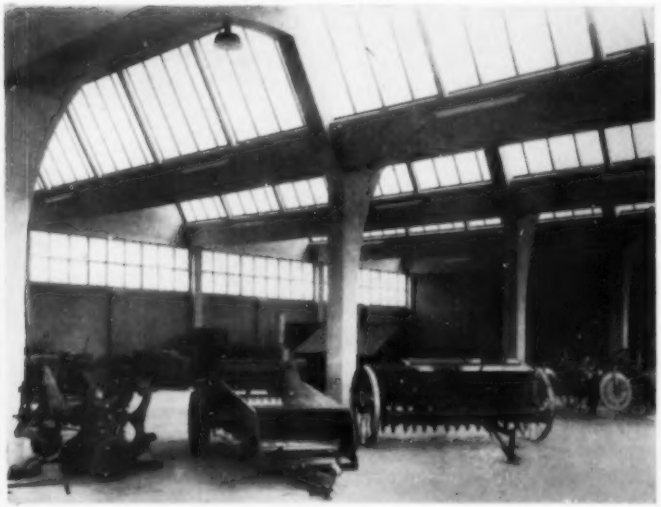
*Warehouse interior, looking into the western corner. Fluorescent strip lights are fixed to both sides of the roof beams.*



*General view from the East*

brown plinth, all external concrete (except soffits to projectors) off-white stone paint, soffits of projections light blue.

Internal: walls, unplastered golden brown bricks, ceilings, where insulated, natural grey asbestos, where concrete, buff stone paint. Concrete columns and portal frames grey stone paint, woodwork, doors grey and linings white.



*The northern corner of the warehouse; note the tungsten lighting fittings on the roof ribs supplementing the fluorescent strips.*

Spare parts are unloaded by one-ton hoist at the side loading bay and from thence are wheeled down an internal ramp. Heavy implements are unloaded at the rear loading pit where the lorry is backed down until the truck is at ground level when the implements are wheeled off. If for any reason this is not practicable vehicles can be backed under the three-ton travelling gantry in the shop.

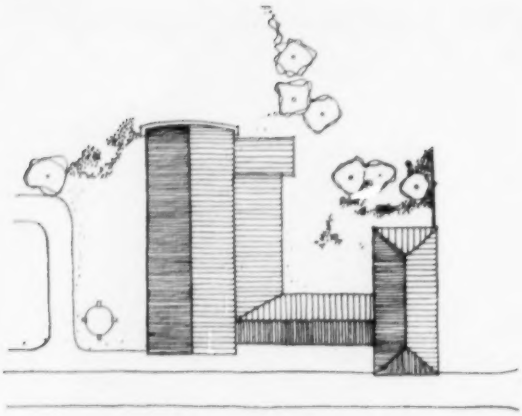
The building has been placed to one side of the site to allow for an extension of one 40ft bay to the north lighted part of the building and two 15ft bays to the front portion.

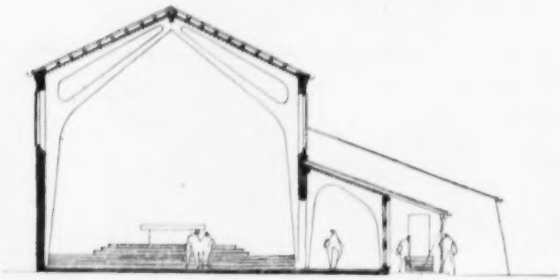
The cost including fencing gates and concrete road cycle shed and oil stove is approximately £30,000.

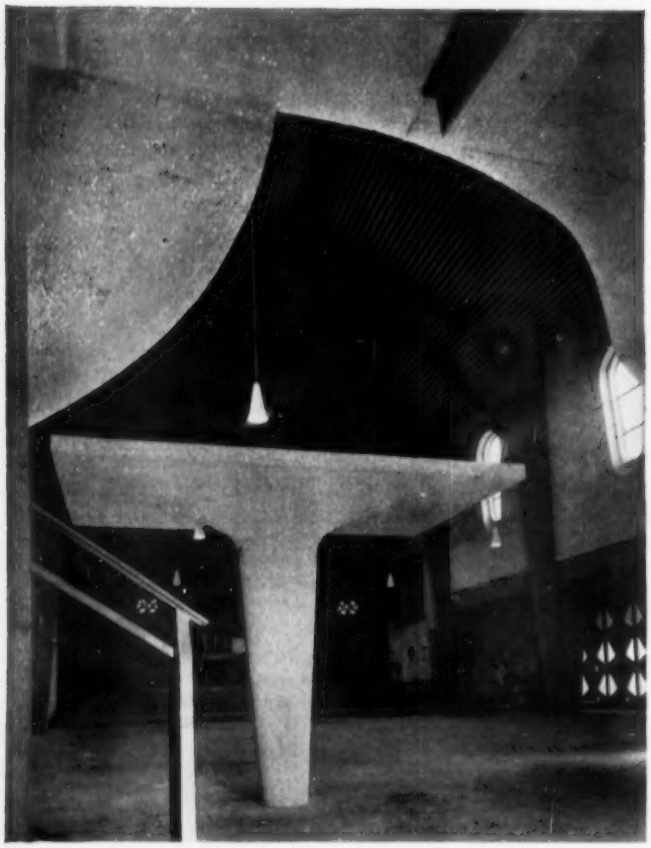
Quantity Surveyors: Cleveley & Bass

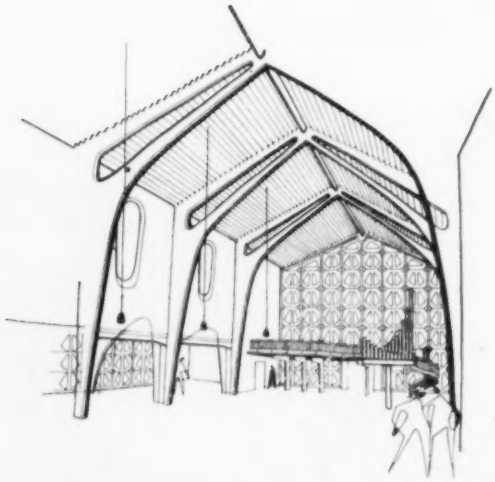
General Contractors: Cubitt & Gotts Ltd.

*Bricks:* Uxbridge Flint Brick Co. *Electrical Installation:* K. L. Blackman. *Extract Fans:* Norris Warming. *Felt Roofing:* D. Anderson & Son, Ltd. *Gas Heating:* Eastern Gas Board. *Insulation:* Cubitt & Gotts, Ltd. *Ironmongery:* Dryad Metal Works, Ltd. *Lantern Lights, Patent Glazing, Lavatory Cubicles:* Hopes, Ltd. *Metal Letters:* Morris Singer, Ltd. *Metal Windows:* Aygee, Ltd. *R.C. Windows:* Saunders (Ipswich), Ltd. *Sand Blasted Lettering:* James Clark & Eton. *Sliding Door Gear:* P. C. Henderson, Ltd. *Travelling Hoist to Loading Bay:* Short (Lifts), Ltd.





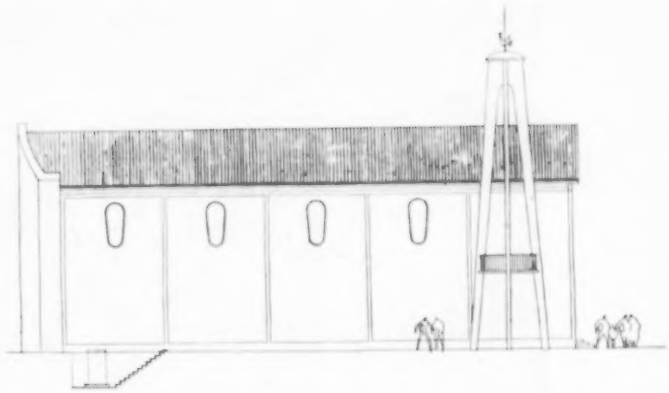


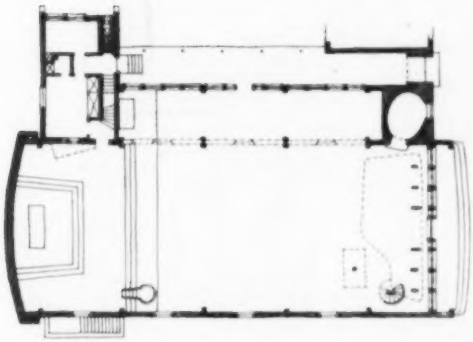


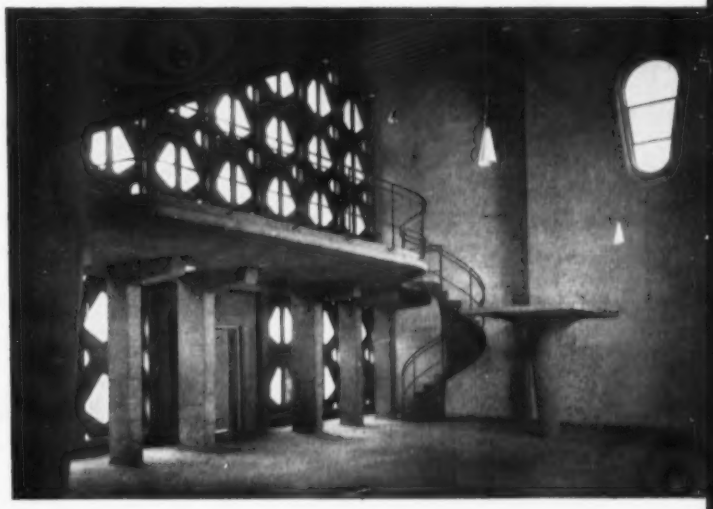
*Sketch showing organ in position; in the photograph (left) only the base is shown.*

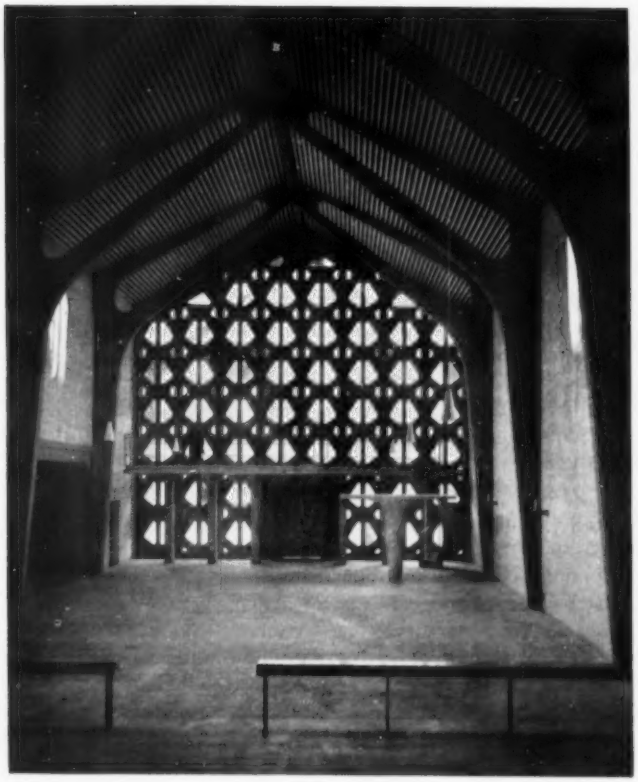
# St. Marie Church Cologne–Gremberg

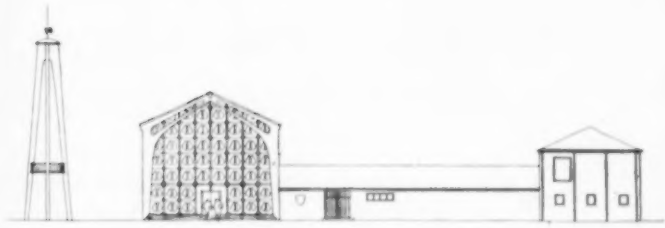
ARCHITECT:
GEORG MARIA LÜNENBORG



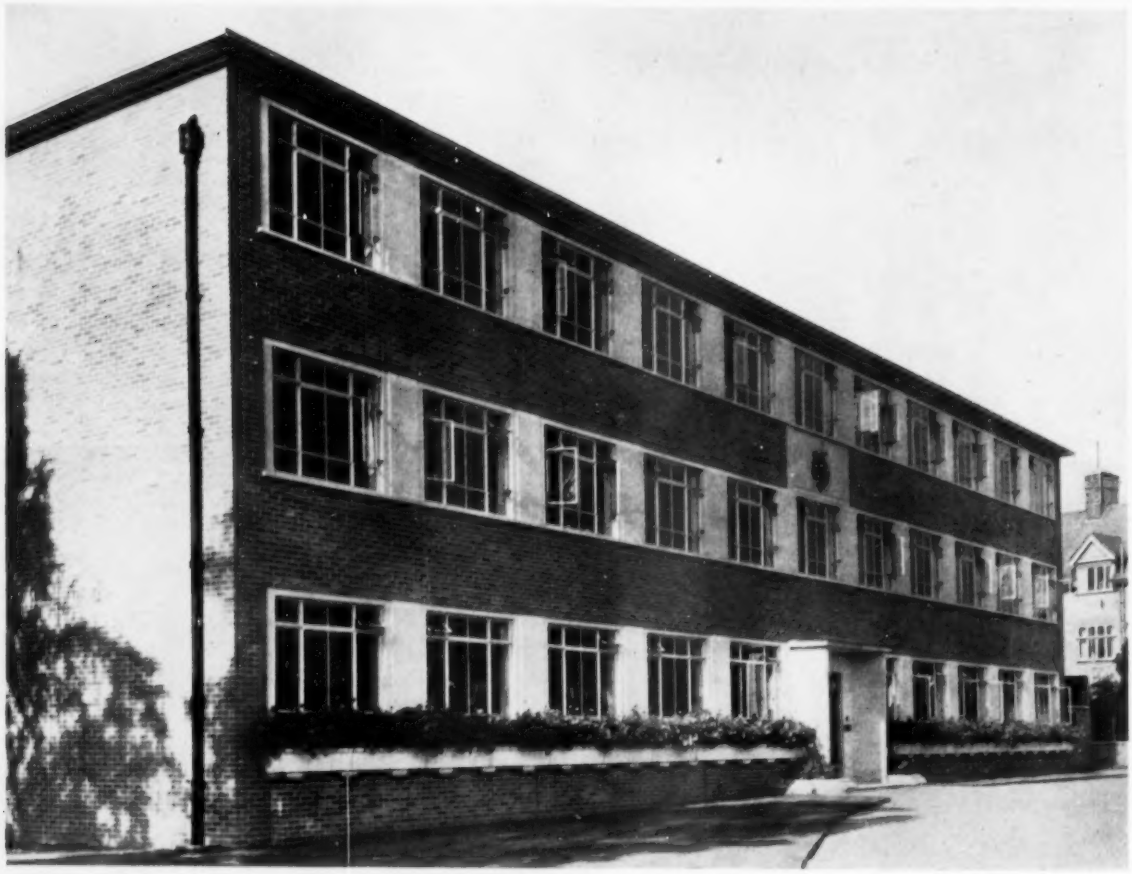








IN this church designed by the architect at the Cologne Trade Schools all load-bearing parts, including the three-centred stones, were pre-fabricated and assembled on the spot. The intermediate bays, both in the entrance wall and in the wall of the side aisle, were filled with perforated precast concrete plates, on which a rabbet was provided for glazing. The remaining walls, between the binding stones, were filled with pumice breeze blocks. The whole construction rests against the choir wall, which is of brick and somewhat arched. So far the tower and the young people's home are not yet erected, but they are likely to be built during the next year.



Front elevation

# NEW OFFICE BLOCK, MIDDLESEX,

## for Messrs. Glyn Mills & Co.

architect: F. H. BROADBENT, F.R.I.B.A., of Goodhart-Rendel and Partners

AT the outbreak of the last war the Pay Department and certain parts of the Banking Department of Messrs. Glyn Mills & Co.—Holts Branch—were evacuated to Osterley Park. When the National Trust took over Osterley Park at the end of the war it became necessary for Messrs. Glyn Mills & Co. to provide alternative accommodation and Lampton Hall, with its grounds, was purchased for the purpose. The portion of the site facing Lampton Road at the junction of the Great West Road was allocated to the new Building, the foundations of which were commenced in January 1953, the first portion of the Building being completed in March 1954.

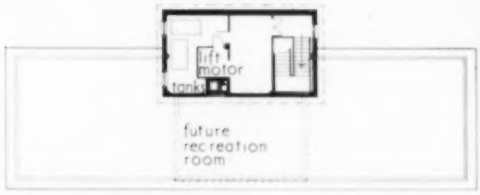
It may be recalled that only two years ago a successful T.V. experiment was carried out in conjunction with Messrs. Pye of Cambridge, when pictures of office records were televised between Messrs. Glyn Mills' Whitehall office and Lampton Hall, Osterley.

The new offices are planned as an 'H' shaped three storeyed building of which only the three floors in the front and the ground floor of the centre spine have so far been built, the licence granted being sufficient only to provide space to compensate for that lost at Osterley Park. Above the second floor on the main front will be a Staff Recreation Room which will be built when the other extensions are carried out.

The building is arranged with one large office block on the ground, first and second floors, with a lift, lavatories and main staircase in the centre. The offices are divided with removable metal partitions. Below the centre block is the boiler house.

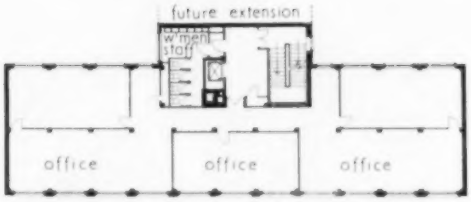
The building is of reinforced concrete construction with hollow tile floors and 11in cavity walls, facings being of Ibstock bricks. The floors throughout are finished with rubber. The ceilings of the ground and

[Continued on page 538

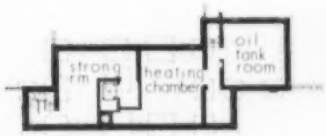



ROOF PLAN

Main Office

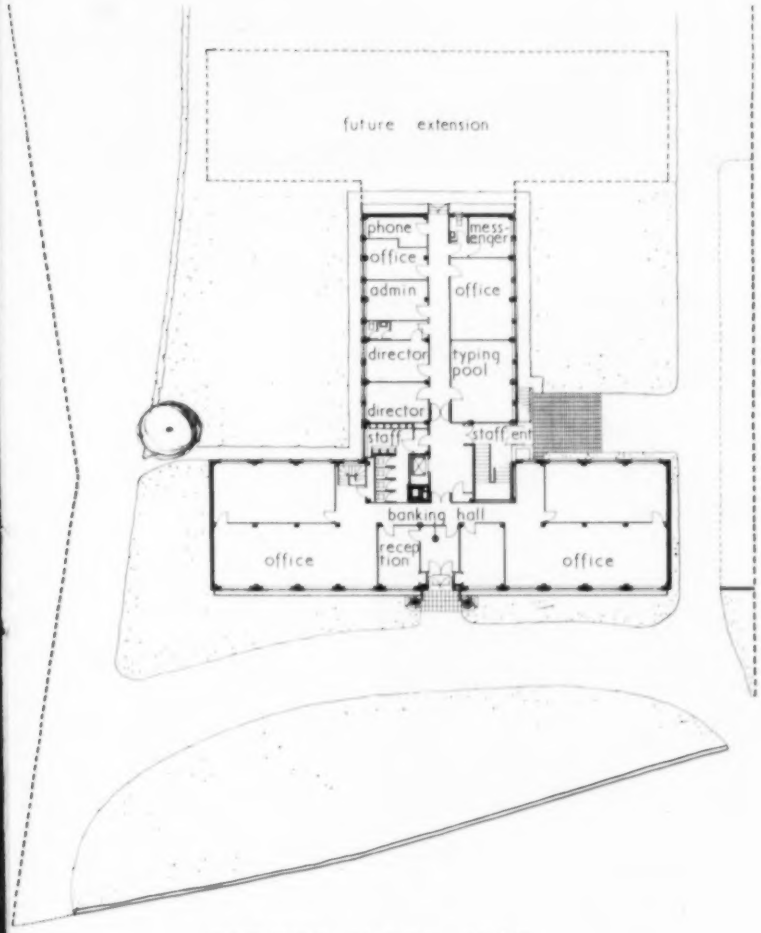



FIRST AND SECOND FLOORS




BASEMENT

Scale: 1in—40ft




GROUND FLOOR PLAN

*General Contractor:*
*The Demolition and Construction Co. Ltd.*

| | |
|---|---|
| *Boundary Railing:* | Bostwick Gate & Shutter Co., Ltd. |
| *Bricks:* | Ibstock Brick & Tile Co., Ltd. |
| *Cycle Racks:* | Alfred A. Odoni & Co., Ltd. |
| *Door Furniture:* | F. Knight & Co., Ltd. |
| *Electrical Installation:* | T. Clarke & Co., Ltd. |
| *Flat Roofing:* | D. Anderson & Son, Ltd. |
| *Flower Boxes:* | Girlingstone, Ltd. |
| *Heating:* | Rosser & Russell, Ltd. |
| *Lifts:* | Waygood-Otis, Ltd. |
| *Lighting Fittings:* | Troughton & Young, Ltd. |
| *Partitions—Internal:* | Sankey Sheldon, Ltd. |
| *Plumbing:* | Ellis (Kensington), Ltd. |
| *Portland Stone:* | South Western Stone Co., Ltd. |
| *Rubber Flooring:* | Runnymede Rubber Co., Ltd |
| *Sanitary Fittings:* | John Bolding & Sons, Ltd. |
| *Sound Proofing:* | May Acoustics, Ltd. |
| *Staircase Handrails:* | Kingsmill Metal Co., Ltd. |
| *Terrazzo:* | Art Pavements & Decorations, Ltd. |
| *Tiling (Wall):* | Carter & Co., Ltd. |
| *Venetian Blinds:* | Albert J. Shingleton, Ltd. |
| *Windows—Metal:* | Williams & Williams, Ltd. |

# New Office for Glyn Mills & Co.

Continued from page 536]

first floors are treated acoustically to reduce the noise from the machines. The main staircase and dado is of terrazzo to a height of 3ft. An oil-fired central heating system thermostatically controlled has been installed. The electrical installation is in Key Fibre Ducts, there being four runs of these throughout each floor which will enable telephones and lighting points to be installed or removed with the minimum of disturbance. The front elevation is of brick with portland stone piers between the windows and artificial stone flower boxes.

*Directors' office, ground floor*

*Main staircase*

*The main entrance doors are black with gold beading round the panels.*

# Regulations and General Conditions of Contract for Building Work in Scotland

THESE new regulations and conditions of contract became effective from September 1. They are the result of negotiations between the Royal Incorporation of Architects in Scotland and the Scottish National Building Trades Federation (Employers) with the approval of the Association of Local Authorities in Scotland. The Institution of Chartered Surveyors, covering the quantity surveyors, are not mentioned as having assisted with this work. Copies are available, price 2s 6d from both the R.I.A.S. and S.M.B.T.F.(E).

While I do not profess to be an expert in law and legal documents, and Scottish law in particular, there are, however, some observations on the subject which I would like to offer; it is not proposed to comment in detail on the full contents, it is interesting to think about and discuss certain of the clauses. The document appears to follow generally the lines of the previous issue and the normal form of contract used in England, but quite a number of changes have been made.

It is interesting to note in Clause 3 of the regulations the statement "Any work included in the Schedules (Bills of Quantities in England), for which detailed drawings are not available, the nature whereof cannot be adequately conveyed by description therein, shall be the subject of provisional sums." Unless there is a great difference in architectural practice and habits in Scotland from those in England, future Schedules look like being very much more heavily loaded with provisional sums than in the past, as quantity surveyors so often have to make great assumptions as to what architects will include in their details when these are prepared. It is to be hoped that in future there will be more detailed drawings, as there should be, available prior to inviting tenders. One of the steps to more efficient building is most certainly to let the contractor know precisely what he has to do and also not to make subsequent alterations as these, however large or small, have considerable influence on the smooth running of jobs.

It seems a little surprising to find Clause 8 stating "if either party desires that a formal contract be entered into the party making the demand shall bear the expenses. . . ." One would have thought that on all occasions both parties would have required a formal contract and not merely to be prepared to have the contractor sign the drawings, the specification, priced schedules and a copy of this document of general conditions.

The next clause, No. 9, includes a requirement which seems to be new. Part of the clause is normal, namely, "Security may be required by the employer for the due performance of the contract," but it continues, "or by the contractor for the payment of monies to become due. . . ." This seems to be very sound as on occasions the contractor may have reason to be a little dubious as to whether the employer has the finance to meet the cost of the work covered by the contract.

Clause 1 of the General Conditions uses the words "do everything in accordance with the true intent and meaning of the signed drawings, specifications, etc." This always seems to me to be extremely vague because the drawings and the specifications so often are such that it is frequently very hard to know what is, in fact, their true intent and meaning; the architect is the only person who knows what is intended and his views may not always coincide with those of the contractor; therefore it seems a little hard to believe that the architect can be an unbiased arbitrator on such matters; one wonders whether the quantity surveyor who prepares the schedules would not, in fact, be a better person to undertake this duty.

As to the contract documents, the architect only has to provide, other than the signed copies, one complete copy of all drawings and of the specification and unpriced schedules of quantities for "the joint use of all of the contractors on the works." The architect also has to provide an additional copy of the specifications and a blank copy of the schedule of quantities. This provision seems to be quite inadequate for all but the smallest jobs under present conditions. It seems incumbent on architects to provide sufficient copies of all drawings for the proper execution of jobs and it should be reasonable to increase this number to something more acceptable because almost invariably the contractor has to ask for additional copies, for which he has to pay, and he is disinclined on occasions to ask for them because of the increased cost. The clause continues, "any detailed drawings required by the contractor for the execution of any part of the work shall be furnished by the architect after receipt by him of a request in writing and within a reasonable time before it is necessary to execute such work. Failure or delay in supplying detailed drawings after such a request shall relieve the contractor of any responsibility due to such failure or delay on the part of the architect." This clause seems to be thoroughly wrong. How can an architect expect to get the work done in the way he wants it if the drawings are not supplied to the contractor without the contractor having to ask for them. Nor does "within a reasonable time" seem right. Detailed drawings should not only be made available but they should be available at the time of the signing of the contract, or at least very soon after and therefore long before they may be needed as without the contractors cannot plan their work properly.

In regard to setting out, covered in Clause 3, I am pleased to see that "the contractor shall set out the work from fixed points furnished by the architect." I think it should also be an obligation on the architect to check the basic setting out before work proceeds far and to give his approval in writing.

The fourth clause is the usual requirement that the contractor shall conform in all respects to Local Authority requirements, but it does not say that if this involves alterations that the cost thereof should be borne by the employer; in fact, a later clause, No. 13, says that the contractor must not make alterations.

I find great difficulty with the fifth clause, which deals with plant and material, as it says that "all plant and material placed on the site shall be the property of the employer absolutely." This seems to be most difficult because to-day so much of the plant put on to sites is not the property of the contractor but is hired and one questions whether the contractor is within his rights to allow someone else's property to become the property of somebody else. I think that lots of architects are going to be kept very busy if the removal from the site of plant shall be only on the written consent of the architect since quite a lot of plant may be only on the sites for a matter of days.

The next clause deals with materials and workmanship and says that the contractor shall, at the request of the architect, provide vouchers proving that materials are of the respective kinds called for. No mention, however, is made of who pays for the tests which may be needed for these vouchers to be given. The final sentence of paragraph 1 says "The works shall be executed in a sound workmanlike and substantial manner." This seems to be somewhat difficult if the architects drawings and specifications cover work which the contractor does not think is either workmanlike or substantial. Surely the contractor is only asked to do what he is told in the drawings and the specification. Later in the clause the architect is given power to give orders specifying the standard of workmanship; it would seem that this is something which should be described in the specification which the contractor has signed at the commencement of the job. Another part of this clause says that all orders by the architect shall, if the contractor so requires, be given in writing; surely, again, the architect ought to have to give his orders in writing or at least to confirm them after they are given without a demand from the contractor.

The clause on access to works and workshops where work is being prepared or stored seems to be rather wide

as many suppliers of materials and components might reasonably object to the employer, the architect or persons authorized by them, wandering around their works; this permission ought surely to be limited to visiting the works to see and test material for a particular job and only that job.

The conditions contain the usual clause on damages for delay but it does not mention any question of a bonus to the contractor if he finishes earlier. Is it not fair to offer advantages to the contractor equal to the advantages to the employer arising from failure on the part of the contractor? To offer a bonus would in any case encourage productivity.

There are sundry clauses which concern the work of the quantity surveyor. If the quantity surveyor is wrong by understating or overstating the amount of material necessary, this can be rectified, but on the other hand, if the contractor makes a mistake in his tender, no rectification seems to be permitted. One wonders if it is not the purpose of employing a quantity surveyor to ensure that the quantities required are correct and thus to permit the schedules to be as much as 10 per cent wrong would seem to indicate that the quantities are, broadly speaking, valueless. Another sentence which I often feel should be questioned is "when in the opinion of the architect such works cannot be properly measured and valued, daywork prices shall be allowed." Would not the quantity surveyor be the better person to decide whether something can be measured or valued?

There is a clause covering loss owing to alterations and omissions and compensation for the contractor. This seems to be a very good development but it still seems to be somewhat unfair on the contractor as he is allowed a certain sum of money based on his loss but excluding loss of profit. I feel in connection with provisional sums the specification and the schedules should make very clear exactly what is likely to be done as without such information it is difficult for the contractor to make a fair allowance in respect of his profits, services and trouble in connection therewith.

There is the usual clause about damage to adjacent property and that the contractor is held liable for troubles due to negligence, omission or default of himself, his servants or any sub-contractor. What the clause does not refer to is who indemnifies the employer if the damage arises from a failure on the part of the architect or engineer.

It seems very surprising to find that the general maintenance period is 12 months. This seems unduly long for the contractor's money to be tied up. There is a long paragraph on the obligations of parties as to maintenance which, it is interesting to note, includes a provision that if defects, shrinkages, settlements, faults, or damage have arisen in the contract work due to a defect in the architect's design or instructions, then the same shall be made good as extra works; this seems very hard on the employer, as it seems that it should be a responsibility of the person making the mistake, namely the architect. One has a feeling also that the period in which the architect has to notify the maintenance work to be done should be limited to a very short time which should expire on the day that the maintenance period expires. Payment of the retention fund is, as usual, split into two other parts but the first part is not payable until three months after the commencement of the maintenance period and the balance at the end of 12 months, or on the issue of the architect's final certificate, provided that the contractor has made good the maintenance. All this seems to be an unnecessary burden on the building industry and assists in making building unnecessarily expensive. One wonders if these provisions are not the result of the employment of unsound contractors. If a contractor agrees to do certain maintenance, surely there is no need to hold money as a security that he will do that work. There are other means which are normal in commerce.

This form of contract seems to perpetuate the position as it has been for many years and one would have thought that during negotiations for a new form of contract there would have been a much greater departure from the practices of the past and a desire to agree conditions of contract which are more in keeping with the needs of the present time, namely to increase productivity and to keep building costs at a minimum. There are a number of other forms of contract available for building and at least a number of these appear to be much more beneficial to everyone concerned and an encouragement to the contractor to "get on with the job."

## *DUTCH UNCLE*

* * *

## TIMBER NOTES

SUPPLIES of softwoods and hardwoods are now plentiful throughout the country. No delivery delays are experienced on the building sites, and the special qualities and sizes required can normally be obtained speedily from local merchants. For this benefit the architect and contractor is no doubt grateful, but the tendency towards higher prices seen lately has continued, and on this important question of cost the user is able to find no relief.

Only now are retail prices being pushed up sufficiently to cover the replacement costs based on buying in the late summer, and already these prices are not enough to cover replacement costs if the prices being paid for early 1955 shipments can be said to constitute a market. Softwood importers are now paying more for arrivals from Sweden and Finland at first open water in the spring of next year, these higher prices being based on higher prices paid for logs by the mills overseas.

A heavy stock of softwood should be available at the end of the year, a figure of 650,000 standards being popularly canvassed in the trade. Such a stock should prevent anyone from rushing into the market to buy, and it can be said there are few companies willing so far to pay these new high prices. For the builder and contractor they mean dearer softwood at a time when it was confidently hoped the trend would be downwards.

Good softwood joinery stocks will continue to obtain good prices, for this wood is not over plentiful, especially where it has been well seasoned. This still leaves plenty of scope for lower prices in the other grades, however, and it is here the user is being disappointed. The strike in American lumber mills pushed up the prices for Canadian softwood, and now a new twist to the price spiral is being given by the European market.

Hardwood prices are also going up generally, both because these prices have been on the low side, and because the furniture trade is now doing good business and is once more a heavy buyer of hardwoods. Some woods selling at almost slump prices in August (such as ramin) are now rising almost weekly in value.

Some relief has been granted for hardwood strip and block floors, for the purchase tax brought into operation at the beginning of the year to apply to all these items less than ¾in thick, has now been amended to cover only those hardwood floorings where the thickness is less than ¾in.

Plywood imports continue heavy, and stocks are high. Some release of official Russian and Finnish stock has been announced by the Board of Trade, but much of this material is not in the thicknesses most needed. Increased radio and furniture business is expected to create a heavier demand for plywood. Prices show no fall, but many in the trade doubt whether the present level can be held.

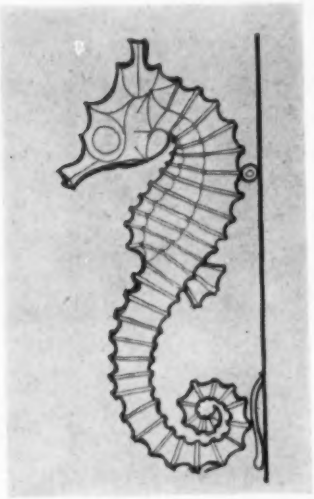
Though imports of wallboards are heavier, there are some delays at the ports. Much more material is arriving, and British factories producing these boards are working to the limit. There has been a heavy run on insulation board before the winter reveals any coal shortage.

* * *

## Standard Asphalt

The National Association of Master Asphalters was registered in 1933 to promote and extend the knowledge of asphalt in building and civil engineering. A booklet, titled "Namastic," contains standard specifications and illustrations of all the main uses and applications of asphalt and can be had from the Secretary, N.A.P.A., 202, Bishopsgate, London, E.C.2. Tel.: Avenue 8484.

The book is subdivided into Roofing, Tanking and Flooring and contains a selection of some of the main contracts carried out in the ten years up to 1953. The technical matter is clearly laid out and easy to read, recommendations are made for minimum falls, heat and solar insulation, and in each case a satisfactory specification is added.



# Letter Plates, Knockers, etc.

*THIS is the second article of a new series which will appear once a month dealing with building accessories and components. The first article appeared in our issue of 16 September. This one deals with letter plates, knockers, finger plates, cabinet handles, cabinet catches, coat hooks, door closers and stops. The next will deal with locks.*

THE Post Office ask for the aperture in the plate to be not less than 8in × 1¾in as this facilitates greatly the work of the postmen delivering the mail. For smaller domestic buildings this aperture size is often reduced but 5in × 1¼in should be the minimum. This minimum size of aperture in the plate needs an opening in the door itself of 6in × 2in which should be borne in mind when deciding dimensions of door rails. Springs to the flaps of letter plates should be of such a strength that they do not permit the flap to rattle in the wind but at the same time are not so sprung as to hurt fingers caught in them. The fixing bolts on letter plates must be strong as the letter plates are often used for shutting the door; ¼in threaded rod is a minimum for these bolts. The springs should be rust-proofed or made of a non-corrodible material. Bolt centres should be at least 1in greater than the aperture of the door to leave enough wood round the bolt hold for strength. The material requirements are the same as for door handles, bearing in mind the external exposure. B.S.1331 covers various types.

### Drawer and Cupboard Pulls

The traditional type of drawer pull, B.S.1331 Item 58, is very uncomfortable to use. There are many designs of drawer pulls in almost all materials but many of them provide an inadequate grip for the users. It is probable that the most comfortable type to use is the plain metal " Dee " especially to open heavy drawers (B.S.1331 Item 59). When this type of handle is used a washer is essential on the door face to prevent the thin diameter of the metal handle cutting into the surface. This is specially necessary on softwood or hardboard faces. The best form of fixing is to continue the metal and thread this. The finger space should be at least 1¼in × 4in.

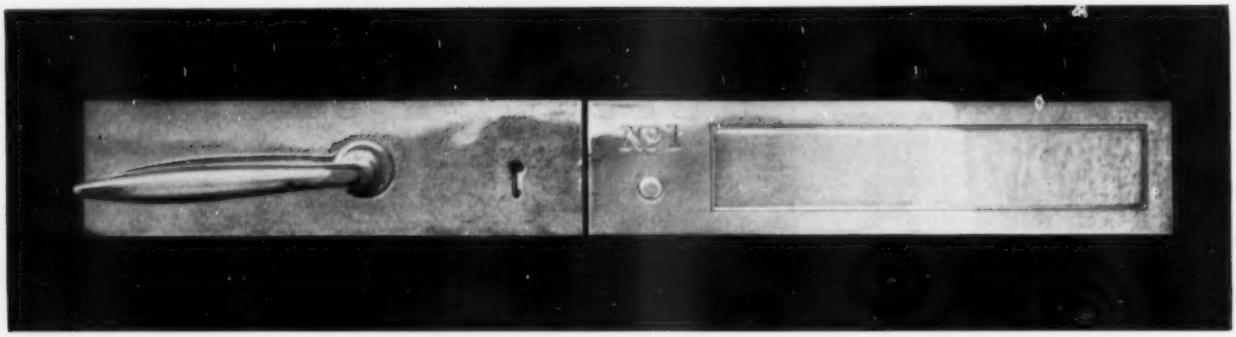
### Cupboard Catches

These are the cause of considerable complaint by property owners as so many types fail in use as they are very often subjected to very heavy wear and tear. The spring clip type, often used on cheaper kitchen cabinets, generally fails to operate properly within a short time, owing to the slight movement of the door or its frame. The most serviceable type appears to be the face-fixed box type with a sliding knob, B.S.1331 Item 47, but the box type with a turnable knob, Item 48, are nicer to handle. Flush face fixed types, as Item 50, are apt to cause doors to twist owing to the need to cut a sinking in the door face to receive the sliding catch.

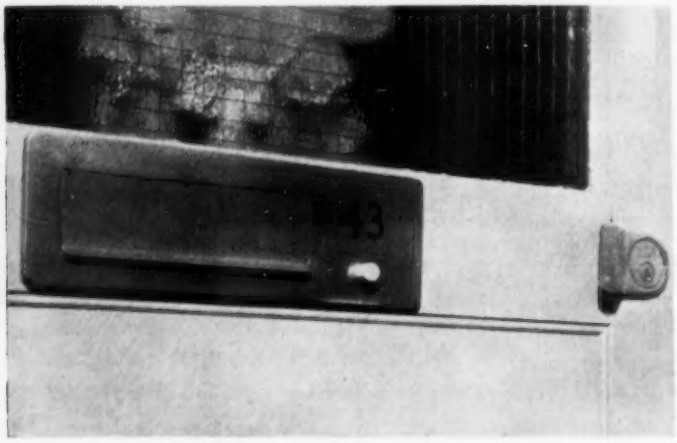
It is important to avoid all those types of cupboard knob which have a wood screw type of fixing (B.S.1331 Items 44 and 45), as these rapidly become loose and it is impossible to refix them without making new holes at some distance from the original.

### Hat and Coat Hooks

It is advisable to avoid the use of cast-iron but to select malleable iron when ferrous hooks are wanted. All hooks of whatever material should be of a robust design. It is desirable that plastic hooks should be reinforced. It is important also that there are sufficient screw holes, and these are adequate in size, in the fixing plate.




**Combined handle, letter plate, bell push and lock in aluminium for a house at Chichester. Made by Yannedis & Co. Ltd. to the design of Powell & Moya.**



**Combined letter plate, bell push and number in anodised aluminium for Boundary Road Housing Scheme. Made by Nettlefold & Moser Ltd. to the design of Edward Armstrong and Frederick McManus, architects.**

## Purpose-made Letter Plates

**Firms mentioned in tables**

*ROBERT ADAMS (VICTOR), LTD.*,
139a *Staines Road, Hounslow, Middx.—Hounslow* 5714.
*G. & S. ALLGOOD*,
12-13 *Eagle Street, London, W.C.*1.—*Chancery* 4771.
*BROAD & CO., LTD.*,
4 *South Wharf, London, W.*2.—*Paddington* 7061.
*CAKEBREAD, ROBEY & CO., LTD.*,
*Caroba Works, High Road, London, N.*22.—*Bowes Park* 1212.
*WALTER CASSEY, LTD.*,
7 *Great Turnstile, London, W.C.*1.—*Chancery* 8726.
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*WILLIAM DIBBEN & SONS, LTD.*,
76-79 *St. Mary's Road, Southampton, Hants.—Southampton* 23800.
*DRYAD METAL WORKS, LTD.*,
*Sanvey Gate, Leicester.—Leicester* 60457.
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*Willow Bank Works, Whit Lane, Pendleton, Salford,* 6.—*Pendleton* 4211.
*B. FINCH & CO., LTD.*,
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*W. N. FROY & SONS, LTD.*,
64 *King Street, Hammersmith, London, W.*6.—*Riverside* 4101.
*GARDINER, SONS & CO., LTD.*,
*Nelson Street, Bristol,* 1.—*Bristol* 20011.
*JAMES GIBBONS, LTD.*,
*Church Lane, Wolverhampton, Staffs.—Wolverhampton* 20401.
*GIBBS & DANDY, LTD.*,
34 *George Street, Luton, Beds.—Luton* 4110.
*HILLS (WEST BROMWICH), LTD.*,
125 *High Holborn, London, W.C.*1.—*Holborn* 8005.
*HENRY HOPE & SONS, LTD.*,
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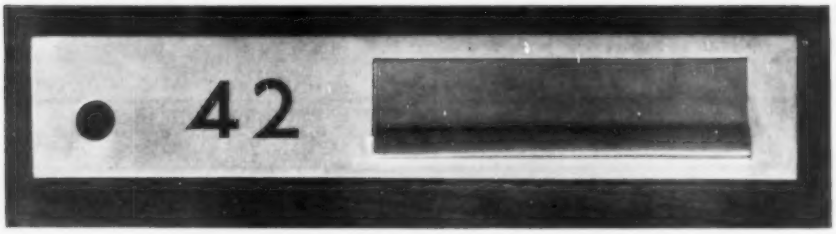
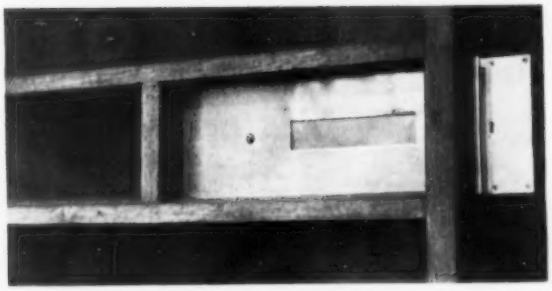
*JOSEPH KAYE & SONS, LTD.*,
84 *South Accommodation Street, Hunslet, Leeds,* 10.—*Leeds* 20887.
*LACRINOID PRODUCTS, LTD.*,
*Gidea Park Works, Stafford Avenue, Gidea Park, Essex.—Hornchurch* 2981.
*LAIDLAW & THOMSON, LTD.*,
60 *Cannon Street, Manchester.—Blackfriars* 5766.
*W. & R. LEGGOTT, LTD.*,
*East Parade, Bradford, Yorks.—Bradford* 21782.
*LEWIS & GRUNDY, LTD.*,
*Pelham Street, Nottingham.—Nottingham* 45781.
*H. H. MARTYN & CO., LTD.*,
*Sunningend Works, Cheltenham, Glos.—Cheltenham* 3061.
*MOUNTFORD BROS., LTD.*,
24-30 *Northwood Street, Birmingham,* 3.—*Central* 3745.
*NICHOLLS & CLARKE, LTD.*,
*Niclar House, Shoreditch, London, E.*1.—*Bishopsgate* 4842.

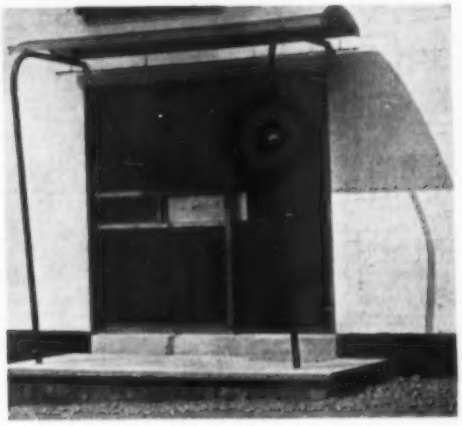



*Letter plate in anodized aluminium for Pimlico Housing Scheme. Supplied by Messrs. Roberts. Designed by Powell & Moya, architects. Price 30s.*

*Combination door plate in silver anodized aluminium for Erith Housing Scheme. Made by Finch & Co. Designed by S. G. E. Moon, Architect's Dept., Borough of Erith.*



*Letter plate in satin finish aluminium for house at Gerrards Cross. Made by J. D. Beardmore & Co. Ltd. Designed by Colin Penn, A.R.I.B.A. Price £2 10s.*



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8-10 *Fitzwilliam Street, Sheffield, 1.—Sheffield* 28831.
*YANNEDIS & CO., LTD.,*
25 *Theobald's Road, London, W.C.1.—Chancery* 7106.
*J. YOUNG & CO. (KENNINGTON), LTD.,*
299 *Kennington Road, London, S.E.11.—Reliance* 5511.
*YOUNG & MARTEN, LTD.,*
1 *Romford Road, London, E.15.—Maryland* 6630.

**Abbreviations used in tables**

| | | | |
|---|---|---|---|
| A.Al.: | Anodized Aluminium | I.: | Iron |
| A.B.I.: | Art Black Iron | M.I.: | Malleable Iron |
| Al.: | Aluminium | N.P.: | Nickel Plate |
| B.B.I.: | Berlin Black Iron | Pl: | Plastic |
| Bk.: | Bakelite | Px.: | Perspex |
| B.M.A.: | Bronze Metal Antique | S.C.P.: | Satin Chromium Plate |
| Br.: | Brass | S.N.Bz.: | Satin Nickel Bronze |
| Bz.: | Bronze | S.S.: | Stainless Steel |
| C.I.: | Cast Iron | Vit.En.: | Vitreous Enamel |
| C.P.: | Chromium Plate | | |

# POSTAL KNOCKERS—LETTER PLATES

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| B. FINCH & CO. LTD. ... ... | 11 | Real B.M.A., B.M.A. finish, C.P., A.Al., S.S., Vit.En. | Overall 11⅜" × 2" Aperture 4⅜" × 1⅛" | Overall 8" × 3" Aperture 5" × 1½" | 4/9 to 30/- | Specials supplied Best seller No. S.221 |
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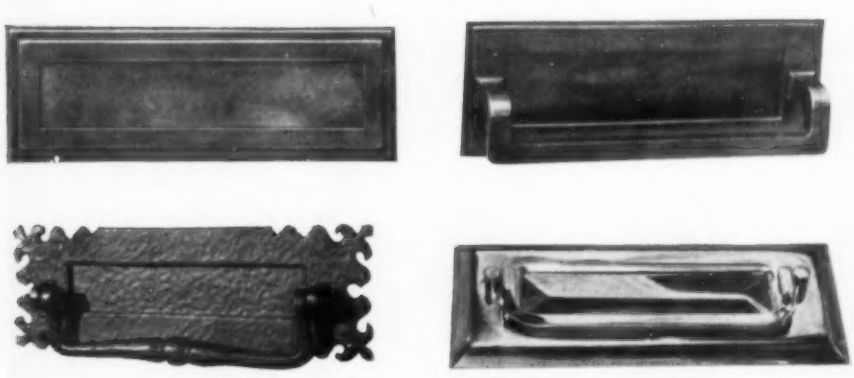
| MOUNTFORD BROS. LTD. ... | 10 | C.P., S.C.P., B.M.A., A.Al., B.B.I. | Plate 16" Opening 12" | Plate 8" Opening 5" | 4/- to 32/- | Specials supplied |
| NICHOLLS & CLARKE LTD. ... | 18 | All finishes | 10" × 4" | 8" × 2½" | 3/- to 75/- | — |
| NORLOND SERVICE (Builders Merchants) LTD. (Fred Hodge Ltd. Branch) | 9 | B.M.A. finish, Real B.M.A., C.P., S.S., A.Al. | Overall 10" × 4" Opening 6½" × 1⅜" | Overall 8" × 3" Opening 5" × 1½" | 7/6 to 32/8 | Best seller: S.S. |
| PARKER, WINDER & ACHURCH LTD. | Many | Br., B.M.A., C.P. | As required | As required | On appln. | Specials supplied. Catalogue available |
| JOHN PHILLIPS LTD. ... ... | 10 | Br., B.M.A., C.P., S.S. | Overall 10⅜" × 4⅛" Opening 8" × 1⅜" | Overall 7" × 2⅛" Opening 4⅛" × 1 7/16" | On appln. | Best seller: No. 1356 (size 8¼" × 3") |
| PRYKE & PALMER LTD. ... | 8 | B.M.A., Bz. finish, S.S. | 10" × 4" | 8" × 3¼" | 10/- to 42/- | Most designs can be supplied |
| N. F. RAMSAY & CO. LTD. ... | 10 | A.B.I., I. Antique hammered, Lacquered Br., B.M.A., A.Al., Pl., C.P., S.C.P. | 10" × 4" | 8" × 3" | 5/6 to 27/- | — |
| ALFRED G. ROBERTS LTD. ... | 14 | All finishes | As required | As required | 12/6 to 45/- | Best seller reference: No. 6070 Specials supplied |
| ROWE BROS. & CO. LTD. ... | Many | Br., B.M.A., B.M.A. finish, C.P., A.Al. | As required | As required | On appln. | Specials supplied |
| ROWNSON, DREW & CLYDESDALE, LTD. | 6 | Real B.M.A., B.M.A. finish, C.P. | Overall 10" × 3½" Opening 8" × 1⅜" | Overall 8" × 3" Opening 5" × 1½" | 6/6 to 22/- | — |
| J. & H. SMITH LTD. ... ... | 6 | Various | 10" × 2" | 8" × 1½" | 8/6 to 30/- | Specials supplied |
| STANDARD RANGE & FOUNDRY LTD. | Many | All finishes | As required | As required | On appln. | Specials supplied. New catalogue being produced |

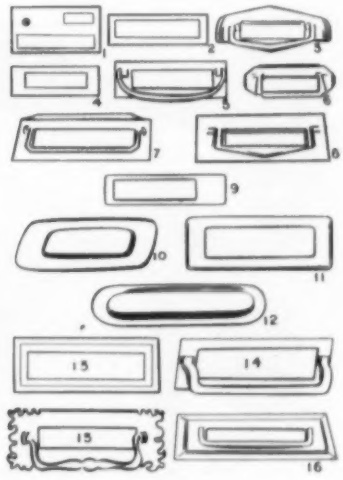
[Continued on page 547

# Postal Knockers and Letter Plates

## POPULAR LINES

1. *Alfred G. Roberts Ltd.*
   *Anodised Aluminium*
   *" Wehag." No. 6068.*
2. *Dryad Metal Works Ltd.*
   *Bronze Brass or C.P. No. L17*
3. *Broad & Co. Ltd.*
   *Bronze Metal Antique No. 5408*
4. *James Gibbons Ltd.*
   *Brass, Bronze or C.P., No. B4408.*
5. *F. P. Waltho Ltd.*
   *Bronze No. D1016.*
6. *James Gibbons Ltd.*
   *Brass, Bronze or C.P. No. B4407.*
7. *Teuten-Davis Bennett Ltd.*
   *Aluminium No. C8791.*
8. *W. N. Froy & Sons Ltd.*
   *Bronze Metal Antique No. FR.2000*
9. *G. & S. Allgood.*
   *Anodised Aluminium.*
   *The " County."*
10. *J. P. Fielding & Co. Ltd.*
    *C.P. or Bronze. " Tyne."*
11. *John Harper & Co. Ltd.*
    *C.I. or Vitreous Enamelled Bronze*
12. *G. & S. Allgood*
    *Satin Nickel Bronze.*
    *The " Continental."*
13. *Henry Hope & Sons Ltd.*
    *Bronze No. 2175.*
14. *Henry Hope & Sons Ltd.*
    *Bronze No. 2313.*
15. *Gardiner Sons & Co. Ltd.*
    *Dull Black Malleable Iron.*
    *No. G7725.*
16. *B. Finch & Co. Ltd.*
    *Armour Bright No. M5113.*





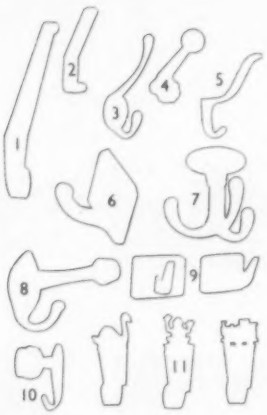
***No. 2 was designed by R. Peach, F.S.I.A. and No. 10 by J. T. Boardman. The latter was selected by the Council of Industrial Design for The Canadian National Exhibition.***

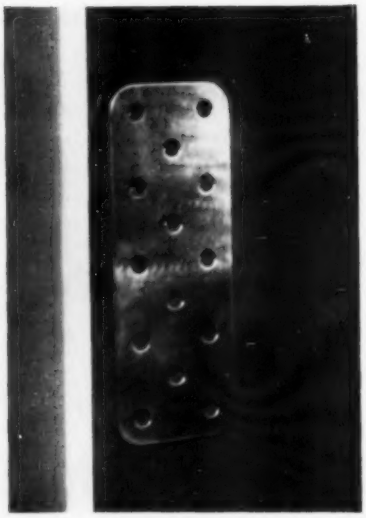
# Hooks

## POPULAR LINES

**1.** *Dryad Metal Works Ltd. Brass, Bronze, C.P. or M.I., No. H64, designed by Roger Peach, F.S.I.A.* **2.** *Alfred G. Roberts Ltd. Anodized Aluminium.* **3.** *James Gibbons Ltd. I., Br., Bz., S.N.Bz., A.Al. C.P., No. B665.* **4.** *James Gibbons Ltd. I., Br., Bz., S.N.Bz., A.Al., C.P. with coloured Plastic Ball, No. B4772.* **5.** *Alfred G. Roberts Ltd. A.Al., No. 2113 (Wehag).* **6.** *British Duplex Seals Ltd. Polystyrene in various colours.* **7.** *Stedall & Co. Ltd. Br., B.M.A. or C.P., No. 215.* **8.** *G. & S. Allgood. B.M.A. with rubber buffer.* **9.** *W. C. Youngman Ltd. C.P.—"Masque," designed by Scott-Ashford Associates Ltd.* **10.** *Teuten-Davis Bennett Ltd. B.M.A. with rubber buffer.* **11.** *Dryad Metal Works Ltd., of a wide variety of designs for Nursery Schools.*

*The two finger plates illustrated on the right are, top, Perspex, by Gardiner Sons & Co. Ltd., No. G3550, and bottom, one designed for the Manager's Office of the Regatta Restaurant, Festival of Britain, by Misha Black and Alexander Gibson.*





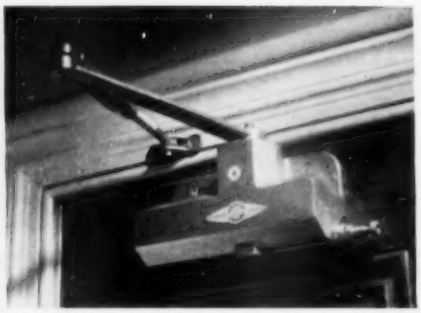
## Postal Knockers and Letter Plates—*continued*

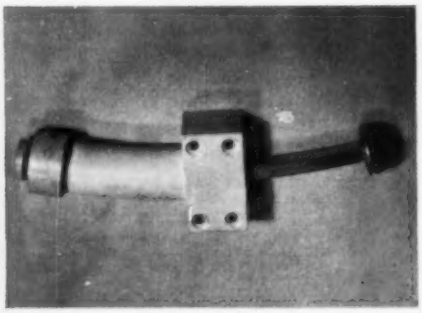
| Supplier | Types in stock | Finishes | Dimensions (Max.) | Dimensions (Min.) | Price Range | Remarks |
|---|---|---|---|---|---|---|
| STEDALL & CO. LTD. ... ... | Many | All finishes | As required | As required | On appln. | New catalogue just produced |
| TAYLOR, PEARSE & CO. LTD.... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| TEUTEN-DAVIS BENNETT LTD. | 6 | S.C.P., B.M.A., Al. | 10" × 4" | 8" × 3" | 6/- to 30/- | Best seller plain 8" × 3". Specials supplied. Catalogue being prepared |
| F. P. WALTHO LTD. ... ... | Many | All finishes | As required | As required | On appln. | Specials supplied. Best seller: No. D.1016 (Bz.) |
| NEVILLE WATTS & CO. LTD. | Many | All finishes | As required | As required | On appln. | Specials supplied |
| YANNEDIS & CO. LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied. New catalogue being prepared |
| J. YOUNG & CO. (Kennington) LTD. | Many | All finishes | As required | As required | On appln. | — |
| YOUNG & MARTEN LTD. ... | Many | All finishes | As required | As required | On appln. | — |

## CABINET FITTINGS

| | | | | | | |
|---|---|---|---|---|---|---|
| G. & S. ALLGOOD ... ... | Various | All finishes | — | — | 6d to 5/- | Specials supplied |
| COMYN CHING & CO. (London) LTD. ... ... ... ... | Many | All finishes | As required | As required | On appln. | Specials supplied. New catalogue being produced |
| DRYAD METAL WORKS LTD.... | 12 | Br., B.M.A., C.P., S.C.P., A.Al. | — | — | 2d to 15/- | Best seller No. B.71. All types supplied. Catalogue available |
| B. FINCH & CO. LTD. ... ... | 20 | Br., B.M.A., C.P., Pl., Al., C.P. or B.M.A. on Diecast | As required | As required | On appln. | — |
| W. N. FROY & SONS LTD. ... | Many | All finishes | As required | As required | On appln. | Catalogue available. Specials supplied |
| GARDINER SONS & CO. LTD.... | 41 | Br., B.M.A., N.P., Br. Plated, Copper, Bz. Steel, Pl. | As required | As required | 2d to 12/6 | Catalogue available. Best sellers nos. G.5104 and G.9094 |
| JAMES GIBBONS LTD. ... ... | Many | All finishes | As required | As required | On appln. | Catalogue available. Specials supplied |
| GIBBS & DANDY LTD. ... ... | Many | All finishes | 6" | 1" | 9d to 6/- | — |
| HILLS (West Bromwich) LTD. ... | Hinges only | Br. | 1½" | ¾" | 2/11 doz. prs to 3/4 doz. prs. | — |
| HENRY HOPE & SONS LTD. ... | Many | Br., Bz. and plated finishes | As required | As required | On appln. | Specials supplied. |
| JOSEPH KAYE & SONS LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| LAIDLAW & THOMSON LTD.... | 24 | B.M.A., C.P., Al., S.C.P. | 4" | 2" | 1/5 to 4/3 | — |
| W. & R. LEGGOTT LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| LEWIS & GRUNDY LTD. ... | Many | All finishes | As required | As required | On appln. | Catalogue being prepared. Specials supplied |
| H. H. MARTYN & CO. LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| MOUNTFORD BROS. LTD. ... | 16 | C.P., S.C.P., B.M.A., A.Al., B.B.I. | — | — | On appln. | Specials supplied |
| PARKER, WINDER & ACHURCH LTD. ... ... ... ... | Many | Stamped and pierced Period Reproduction finished Oxydized Copper and relieved or Real B.M.A. | As required | As required | On appln. | Catalogue available. Specials supplied |
| JOHN PHILLIPS LTD. ... ... | Many | Various | As required | As required | On appln. | — |
| N. F. RAMSAY & CO. LTD. ... | 24 Catches | A.B.I., Lacquered Br., B.M.A., B.M.A. finish, A.Al., Bz., C.P., S.C.P., Pl. | — | — | 2d to 6/6 | — |
| ROWE BROS. & CO. LTD. ... | Many | Br., B.M.A., B.M.A. finish, C.P., A.Al. | As required | As required | On appln. | Specials supplied |
| ROWNSON, DREW & CLYDESDALE LTD. ... ... ... | 6 | Br., Bz., C.P. | As required | As required | 9d to 3/1 | — |
| J. & H. SMITH LTD. ... ... | 12 | S.S., Bz., C.P., Pl., Px. | 5" × 2" | 1" × ¾" | 2/- to 15/- | Specials supplied |
| STANDARD RANGE & FOUNDRY LTD. ... ... ... | Many | All finishes | As required | As required | On appln. | Specials supplied. Catalogue being prepared |
| STEDALL & CO. LTD. ... ... | Many | All finishes | As required | As required | On appln. | New catalogue just produced |
| TAYLOR, PEARSE & CO. LTD. | Many | All finishes | As required | As required | On appln. | Specials supplied |
| TEUTEN-DAVIS BENNETT LTD. | Many | All finishes | As required | As required | On appln. | Specials supplied |
| F. P. WALTHO LTD. ... ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| NEVILLE WATTS & CO. LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| YANNEDIS & CO. LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied. Comprehensive catalogue being prepared |
| J. YOUNG & CO. (Kennington) LTD. ... ... ... ... | Many | All finishes | As required | As required | On appln. | — |
| YOUNG & MARTEN LTD. ... | Many | All finishes | As required | As required | On appln. | — |

# Door Checks





*On the left the "Champion 3A" door check and closer by Forson Design and Engineering Co. Ltd. In the centre the "Bescot" overhead door closer by S. B. & N. Ltd. and on the right the "Kimtox" pneumatic door check and silencer, No. 1.*

# Door Knockers Bell Pushes and Card Holders

1 2 3 4 5

**KEY**

1. *Henry Hope & Sons Ltd. Bronze No. 639.*
2. *B. Finch & Co. Ltd. S.S. No. R.130P.*
3. *W. N. Froy & Sons Ltd. C.P. & B.M.A. No. FR.119.*
4. *Stedall & Co. Ltd. Br., B.M.A. or C.P. No. 299.*
5. *Gardiner Sons & Co. Ltd. M.I. Dull Blacked No. G.7729.*
6. *B. Finch & Co. Ltd. S.S. No. R.105.*
7. *James Gibbons Ltd. Br., Bz. or C.P. No. B.3501*
8. *Henry Hope & Sons Ltd. Bronze No. 1782.*
9. *James Gibbons Ltd. Br., Bz. or C.P. No. B.3972.*
10. *Alfred G. Roberts Ltd. A.Al. No. 1417 (Wehag).*
11. & 12. *Dryad Metal Works Ltd. Al. or Bz.Al. anodized Satin Nos. 54A & 54B. Designed by Roger Peach, F.S.I.A.*
13. *Alfred G. Roberts Ltd. A.Al. No. 1352 (Wehag).*

6 7 8 9 10

## DOOR KNOCKERS

| Supplier | Types in stock | Finishes | Dimensions (Max.) | Dimensions (Min.) | Price Range | Remarks |
|---|---|---|---|---|---|---|
| ROBERT ADAMS (Victor) LTD. | 12 | Br., B.M.A., C.P. | 8½" | 6½" × 2" | 17/6 to 70/- | Specials supplied |
| G. & S. ALLGOOD ... ... | 4 | A.Al., Bz., C.P., S.C.P., Br., B.M.A. S.N.Bz. | 6½" (round) | 2½" (round) | 3/- to 72/- | Specials supplied |
| BROAD & CO. LTD. ... ... | 5 | B.M.A., C.P., S.S. | 7½" | 6¼" | 11/3 to 35/- | Best seller: B.M.A. |
| WALTER CASSEY LTD. ... ... | 3 | Real B.M.A., C.P. | As required | As required | 40/- to 60/- | Specials supplied. |
| COMYN CHING & CO. (London) LTD. | Many | All finishes | As required | As required | On appln. | Specials supplied. New catalogue being produced |
| WILLIAM DIBBEN & SONS LTD. | 14 | A.B.I., Bz., B.M.A., C.P. | 11" | 6¼" | 7/- to 103/- | — |
| DRYAD METAL WORKS LTD. ... | 6 | Br., B.M.A., C.P., S.C.P., A.Al. | 7¼" × 2¼" | 3½" dia. | 29/6 to 51/6 | Catalogue available. Specials supplied. Best seller No. N.13 |
| B. FINCH & CO. LTD. ... ... | 3 | S.S. | 7" × 2" | 5½" × 4½" | 28/6 to 55/6 | Best seller No. R.126 |
| W. N. FROY & SONS LTD. ... | 6 | M.I., Al., S.S., Br., B.M.A., C.P. | Various | Various | 13/- to 103/- | Catalogue available. Specials supplied. Best sellers: Nos. FR. 4022, FR.119. |
| GARDINER SONS & CO. LTD. ... | 12 | B.M.A., C.P., S.S., C.I. Vit.En., C.I.A.B., M.I.A.B., M.I.Antique A.B. | 8" × 2" | 6¼" × 1¼" | 4/9 to 46/9 | Catalogue available. Best seller No. G.3672 |
| JAMES GIBBONS LTD. ... ... | Many | All finishes | As required | As required | On appln. | Catalogue available. Specials supplied. |
| GIBBS & DANDY LTD. ... ... | 3 | Br., Real B.M.A., C.P. | As required | As required | On appln. | Specials supplied |
| HILLS (West Bromwich) LTD. ... | 3 | B.M.A., C.P. | 7¼" × 2⅛" | 5" × 2" | 15/6 to 24/- | — |
| HENRY HOPE & SONS LTD. ... | 14 | Bz., Br. and plated finishes | 9" dia. | 3" × 2" | On appln. | Specials supplied |
| JOSEPH KAYE & SONS LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| LAIDLAW & THOMSON LTD. ... | 12 | B.M.A., C.P., Al., S.C.P. | 9" | 3" | 12/- to 75/- | — |
| W. & R. LEGGOTT LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| LEWIS & GRUNDY LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied. Catalogue being prepared |
| H. H. MARTYN & CO. LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| MOUNTFORD BROS. LTD. ... | 3 | C.P., S.C.P., B.M.A., A.Al., B.B.I. | 12" | 6" | 3/9 to 26/- | Specials supplied. |
| NICHOLLS & CLARKE LTD. ... | 6 | All finishes | 10" | 6" | 5/- to 45/- | — |
| NORLOND SERVICE (Builders Merchants) LTD. (Fred. Hodge Ltd. Branch) | 1 | Real B.M.A., C.P. | 8" × 2⅛" | 8" × 2⅛" | 26/6 to 28/- | — |
| PARKER, WINDER & ACHURCH LTD. | Many | All finishes | As required | As required | On appln. | Catalogue available. Specials supplied |
| JOHN PHILLIPS LTD. ... ... | 2 | Br., B.M.A., C.P., S.S. | 7" × 2¼" | 6½" × 1⅛" | On appln. | Best seller reference No. 2625 (6½" × 1⅛") |
| N. F. RAMSAY & CO. LTD. ... | 3 | Lacquered Br., Cast B.M.A. | As required | As required | On appln. | — |
| ROWE BROS. & CO. LTD. ... | Many | Br., B.M.A., B.M.A. finish, C.P., A.Al. | As required | As required | On appln. | Specials supplied |
| ROWNSON, DREW & CLYDESDALE LTD. | 1 | B.M.A. | 7¼" × 2⅛" | 7¼" × 2⅛" | 21/- | — |
| J. & H. SMITH LTD. ... ... | 4 | Several | 6" × 2" | 5" × 1½" | 8/- to 30/- | Specials supplied |
| STANDARD RANGE & FOUNDRY LTD. | Many | All finishes | As required | As required | On appln. | Specials supplied. Catalogue being prepared |
| STEDALL & CO. LTD. ... ... | Many | All finishes | As required | As required | On appln. | New catalogue just produced |
| TAYLOR, PEARSE & CO. LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| F. P. WALTHO LTD. ... ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| NEVILLE WATTS & CO. LTD.... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| YANNEDIS & CO. LTD. ... ... | Many | All finishes | As required | As required | On appln. | Specials supplied. Comprehensive catalogue being prepared. |
| J. YOUNG & CO. (Kennington) LTD. | Many | All finishes | As required | As required | On appln. | — |
| YOUNG & MARTEN LTD. ... | Many | All finishes | As required | As required | On appln. | — |

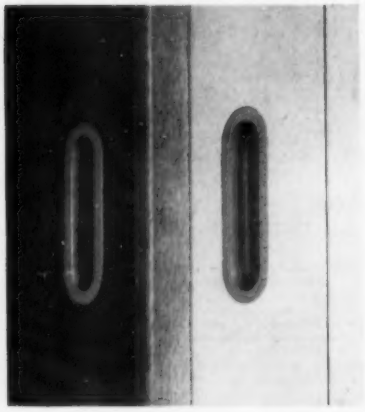
11

12

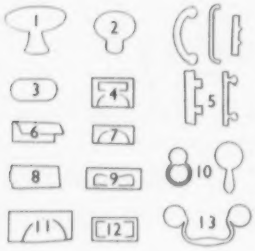
13

# Cabinet Handles and Fittings

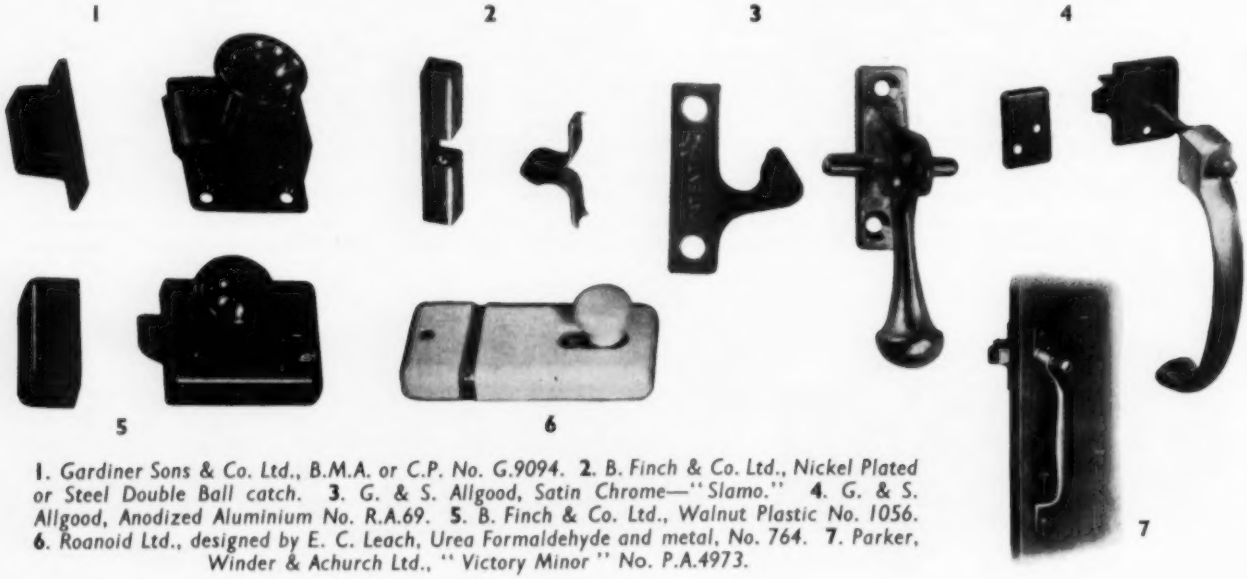
## POPULAR LINES



Designed by Robin Day for sliding doors to a cupboard in Editorial Bureau Chief's Office—"Time-Life" Building, London.

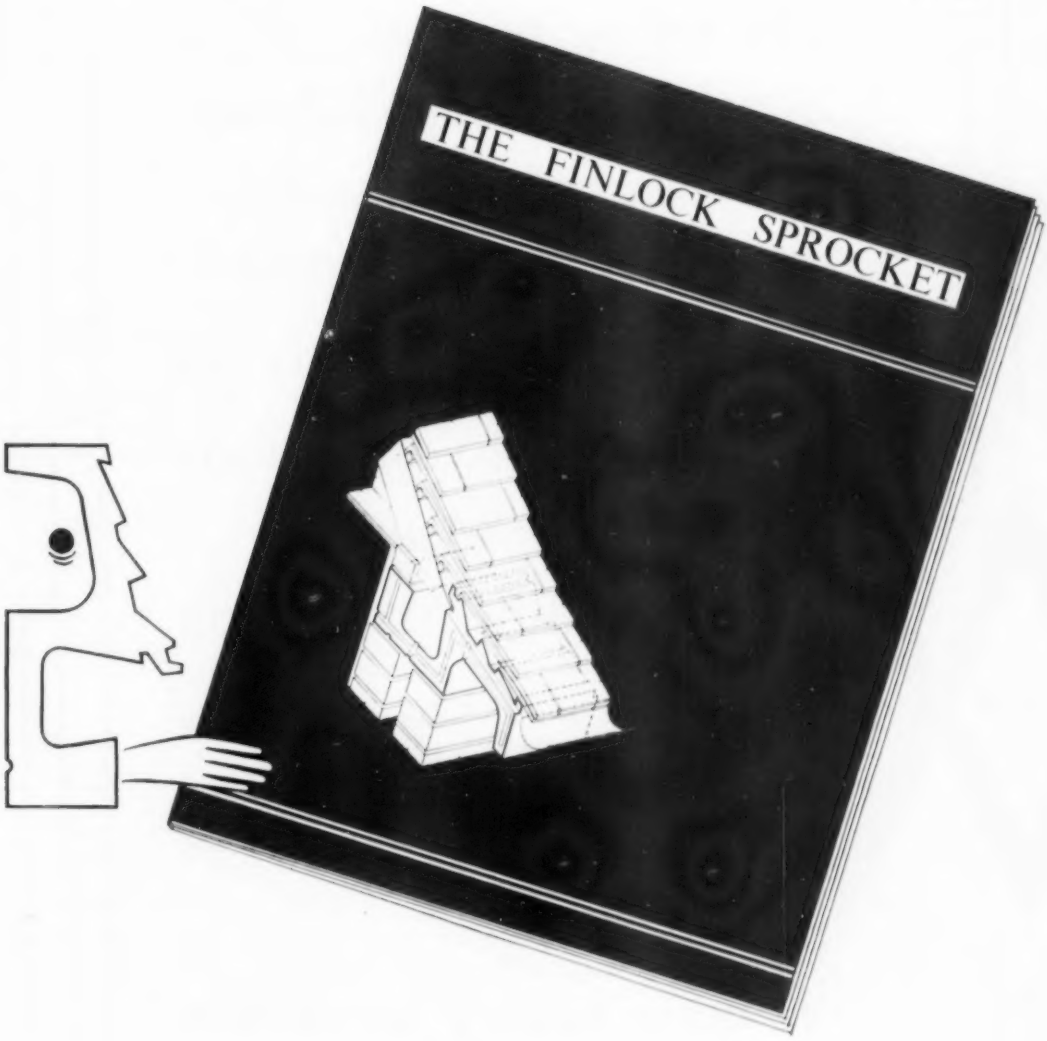


1. Dryad Metal Works Ltd., B.M.A., C.P. or S.C.P. No. H.89. 2. James Gibbons Ltd., I., Br., Bz., Silver Bz., A.Al., C.P., No. B4624. 3. Alfred G. Roberts Ltd., A.Al., No. 482 (Wehag). 4. James Gibbons Ltd., as for No. 2, No. B.4430. 5. James Gibbons Ltd., as for No. 2—group L. to R. Nos. B.4415, B.4373, B.4365, B.4335, B.4395. 6. James Gibbons Ltd., as for No. 2, No. B.4397. 7. James Gibbons Ltd., as for No. 2, No. B.222. 8. Dryad Metal Works Ltd., Br., B.M.A., C.P. or S.C.P., No. H.52. 9. James Gibbons Ltd., as for No. 2, No. B.1409. 10. Henry Hope & Sons Ltd., Bronze, Nos. 661A and 19. 11. James Gibbons Ltd., as for No. 2, No. B.2186. 12. James Gibbons Ltd., as for No. 2., No. B.1550. 13. Henry Hope & Sons Ltd., Bronze, No. 1508.




1. Gardiner Sons & Co. Ltd., B.M.A. or C.P. No. G.9094. 2. B. Finch & Co. Ltd., Nickel Plated or Steel Double Ball catch. 3. G. & S. Allgood, Satin Chrome—"Slamo." 4. G. & S. Allgood, Anodized Aluminium No. R.A.69. 5. B. Finch & Co. Ltd., Walnut Plastic No. 1056. 6. Roanoid Ltd., designed by E. C. Leach, Urea Formaldehyde and metal, No. 764. 7. Parker, Winder & Achurch Ltd., "Victory Minor" No. P.A.4973.

"have you read about me yet?"




*Every discerning Architect and Builder throughout the British Isles will want to know all about me—that is why they have produced a booklet which you can readily obtain on application to the address below. In the interests of good building you should send for your copy today.*

*Finlock Gutters Limited (Dept. S3 ) Tunbridge Wells, Kent. Telephone No. Tunbridge Wells 3396*
DHB

**The selling price of Standard Metal Windows has been reduced by 3¾% since government control ended in 1952.....**

..due to the efforts of the Metal Window Association

*The M W symbol .....* of the Metal Window Association is a guarantee of good faith and good work. For many years the members have been gradually improving the efficiency and finish of Metal Windows.

**THE METAL WINDOW ASSOCIATION**

BURWOOD HOUSE, CAXTON STREET, LONDON, S.W.1.

## CABINET HANDLES

| Supplier | Types in stock | Finishes | Dimensions (Max.) | Dimensions (Min.) | Price Range | Remarks |
|---|---|---|---|---|---|---|
| G. & S. ALLGOOD ... ... | 10 | A.Al., Bz., C.P., S.C.P., Br., B.M.A., S.N.Bz., Bk., Glass | 6" | 2" | 6d to 5/- | Specials supplied |
| BROAD & CO. LTD. ... ... | 4 | C.P., B.M.A. | 6" × ¼" | 3" × ¼" | 1/- to 3/6 | Best seller: C.P. |
| CAKEBREAD, ROBEY & CO. LTD. | 6 | B.M.A., C.P. | 6" | 3" | 10d to 8/2 | Best seller No. 1.198 |
| WALTER CASSEY LTD. ... ... | 2 | Real B.M.A., C.P. | 4" | 3" | 1/6 to 2/- | Specials supplied. |
| COMYN CHING & CO. (London) LTD. | Many | All finishes | As required | As required | On appln. | Specials supplied. New catalogue being produced |
| WILLIAM DIBBEN & SONS LTD. | 10 | Al., Bz., Pl., Br. | 5½" overall | 3" overall | 1/- to 4/- | — |
| DRYAD METAL WORKS LTD.... | 20 | Br., B.M.A., C.P., S.C.P., A.Al. | 6" long | Dia. ¼" | 1/9 to 7/9 | Catalogue available. Specials supplied. Best seller No. H.89 |
| J. P. FIELDING & CO. LTD. ... | 5 | Al., C.P., Bz. | As required | As required | On appln. | Best seller reference B/3 |
| B. FINCH & CO. LTD. ... ... | 12 | Pl., B.M.A., C.P., Al., C.P. or B.M.A. on Diecast | 8" overall | 3" overall | On appln. | — |
| W. N. FROY & SONS LTD. ... | Many | All finishes | As required | As required | On appln. | Catalogue available. Specials supplied |
| GARDINER SONS & CO. LTD. | 40 | Br., B.M.A. finish, C.P., A.Al., Pl. in Walnut, Black, Ivory and Green, Px and Pl. combined in varying colours | 5" | Dia. ½" | 3d to 3/- | Catalogue available. Best seller reference No. G.5288 |
| JAMES GIBBONS LTD. ... ... | Many | All finishes | As required | As required | On appln. | Specials supplied. Catalogue available |
| GIBBS & DANDY LTD. ... ... | Many | All finishes | 8" | 2½" | 6d to 20/- | — |
| HILLS (West Bromwich) LTD. | 1 | Br., B.M.A., C.P. | 5½" | 3½" | 16/3 per doz to 32/9 per doz | — |
| HENRY HOPE & SONS LTD. ... | Many | Bz., Br. and plated finishes | As required | As required | On appln. | Specials supplied |
| JOSEPH KAYE & SONS LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| LACRINOID PRODUCTS LTD.... | 100 | Any colours Pl. | 1½" upwards | 1½" upwards | On appln. | Specials supplied. Catalogue available. |
| LAIDLAW & THOMSON LTD.... | 24 | B.M.A., C.P., Al., S.C.P. | 4" | 2" | 1/5 to 4/3 | — |
| W. & R. LEGGOTT LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| LEWIS & GRUNDY LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied. Catalogue being prepared |
| H. H. MARTYN & CO. LTD. ... | Many | All finishes ... ... | As required | As required | On appln. | Specials supplied |
| MOUNTFORD BROS. LTD. ... | 12 | C.P., S.C.P., B.M.A., A.Al., B.B.I. | As required | As required | 6d to 6/6 | Specials supplied |
| PARKER, WINDER & ACHURCH LTD. | Many | Stamped and Pierced Period Reproduction finished Oxydized Copper and relieved or Real B.M.A. | As required | As required | On appln. | Specials supplied. Catalogue available |
| JOHN PHILLIPS LTD. | Many | Various | As required | As required | On appln. | — |
| N. F. RAMSAY & CO. LTD. ... | 18 | Lacquered Br., Cast B.M.A., B.M.A. finish, Pl, C.P., S.C.P. | As required | As required | 9d to 7/- | — |
| ROWE BROS. & CO. LTD. ... | Many | Br., B.M.A., B.M.A. finish, C.P., A.Al. | As required | As required | On appln. | Specials supplied |
| ROWNSON, DREW & CLYDESDALE LTD. | 2 | Bz., A.Al. | 4" | 4" | 1/- to 1/6 | — |
| J. & H. SMITH LTD. ... ... | 12 | S.S., Bz., C.P., Pl., Px. | 5" × 2" | Rose dia. 1" Grip dia. ½" | 2/- to 15/- | Specials supplied |
| STANDARD RANGE & FOUNDRY LTD. | Many | All finishes | As required | As required | On appln. | Specials supplied. Catalogue being prepared |
| STEDALL & CO. LTD. ... ... | Many | All finishes ... ... | As required | As required | On appln. | New catalogue just produced |
| TAYLOR, PEARSE & CO. LTD.... | Many | All finishes ... ... | As required | As required | On appln. | Specials supplied |
| TEUTEN-DAVIS BENNETT LTD. | 5 | S.C.P., B.M.A., Al. | 6" | 4" | 2/6 to 6/6 | Best seller: Bar type with ballcatch. New catalogue being prepared. Specials supplied |
| F. P. WALTHO LTD. ... ... | Many | All finishes | As required | As required | On appln. | Best seller:—No. W.2134 |
| NEVILLE WATTS & CO. LTD.... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| YANNEDIS & CO. LTD.... ... | Many | All finishes ... | As required | As required | On appln. | Specials supplied. Comprehensive catalogue being prepared |
| J. YOUNG & CO. (Kennington) LTD. | Many | All finishes | As required | As required | On appln. | — |
| YOUNG & MARTEN LTD. ... | Many | All finishes | As required | As required | On appln. | — |

*Stedall & Co. Ltd. No. 98, Indicating Bolt in Polished Brass, B.M.A. or Chromium Plated. Bolt—2⅛" × 1¼", Indicator—2⅜" × 1¼".*

# FINGER PLATES

| Supplier | Types in stock | Finishes | Dimensions (Max.) | Dimensions (Min.) | Price Range | Remarks |
|---|---|---|---|---|---|---|
| ROBERT ADAMS (Victor) LTD.... | Many | Br., B.M.A., C.P. | 18" × 3" | 12" × 2½" | 8/- to 15/- | Specials supplied |
| G. & S. ALLGOOD LTD. ... | 10 | A.Al., C.P., Bz., S.C.P., Br., B.M.A., S.N.Bz., Bk., Glass | 18" × 4" | 6" × 3" | 1/9 to 38/- | Specials supplied |
| BROAD & CO. LTD. ... ... | 5 | B.M.A., C.P., Pl., Glass | 12" | 8" | 2/- to 12/4 | Best seller: Glass |
| CAKEBREAD ROBEY & CO. LTD. | 5 | B.M.A., S.S., Px., Pl., Glass | 12" × 3" | 10½" × 2½" | 4/- to 9/8 | Best seller: No. 1.226 |
| WALTER CASSEY LTD. ... ... | 3 | Real B.M.A., C.P. | 18" × 4" | 12" × 2½" | 7/6 to 25/- | Specials supplied |
| COMYN CHING & CO. (London) LTD. | Many | All finishes | As required | As required | On appln. | Specials supplied. New catalogue being prepared |
| WILLIAM DIBBEN & SONS LTD. | 8 | Px., Pl., B.M.A., C.P. | 12" × 3" | 8" × 3" | 1/8 to 11/9 | — |
| DRYAD METAL WORKS LTD. | 6 | Br., B.M.A., C.P., S.C.P., A.Al. | 7" × 3" | 9" × 2½" | 5/- to 75/- | Catalogue available. Specials supplied. Best seller No. F.1 |
| B. FINCH & CO. LTD. ... ... | 7 | C.P., B.M.A. finish, Br., A.Al., S.S., Px., Pl. | 24" × 3" | 11" × 3" | 3/- to 12/9 | Best seller B.M.A. 12" × 3" |
| W. N. FROY & SONS LTD. ... | 10 | China, I., Pl., S.S., Px., C.P., B.M.A. Glass, Br. | 12" × 3" | 10½" × 2⅜" | 24/- per doz to 11/- each | Catalogue available. Specials supplied. Best seller reference Nos. F.R.2133, F.R.264 |
| GARDINER SONS & CO. LTD. | 6 | B.M.A., C.P., A.Al., S.S., Pl., Warerite | 12" × 3" | 8" × 2⅜" | 1/11 to 21/- | Best seller reference No. G.3378. Catalogue available. |
| JAMES GIBBONS LTD. ... ... | Many | All finishes | As required | As required | On appln. | Specials supplied. Catalogue available. |
| GIBBS & DANDY LTD. ... ... | 4 | Br., B.M.A., C.P., Al. | As required | As required | From 2/6 upwards | Specials supplied |
| HENRY HOPE & SONS LTD. ... | 15 | Bz., Br. and plated finishes | 18" × 3" | 7" × 2½" | On appln. | Specials supplied |
| JOSEPH KAYE & SONS LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| LACRINOID LTD.... ... ... | 2 | Moulded and fabricated plastic | Moulded: 10½" × 2⅜" Fabricated: 11" × 3" | Moulded: 8" × 2⅜" Fabricated: 8" × 3" | On appln. | Catalogue available. Specials supplied |
| LAIDLAW & THOMSON LTD. ... | 12 | B.M.A., C.P., Al., S.C.P. | 18" | 6" | 5/- to 18/6 | — |
| W. & R. LEGGOTT LTD.... ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| LEWIS & GRUNDY LTD. ... | Many | All finishes | As required | As required | On appln. | Catalogue being prepared. Specials supplied |
| H. H. MARTYN & CO. LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| MOUNTFORD BROS. LTD. ... | 12 | C.P., S.C.P., B.M.A., A.Al., B.B.I. | 48" × 8" | 9" × 2" | 2/- to 32/- | Specials supplied |
| NICHOLLS & CLARKE LTD. ... | 12 | All finishes | 14" | 8" | 4/- to 20/- | — |
| NORLOND SERVICE (Builders Merchants) LTD. (Fred. Hodge Ltd. Branch) | 5 | Real B.M.A., C.P., A.Al., Px., Glass | 12" × 3" | 11" × 3" | 3/6 to 10/6 | Best seller B.M.A. |
| PARKER, WINDER & ACHURCH LTD. | Many | Glass, B.B.I., Br., B.M.A., C.P. | 11" × 3" | 11" × 2½" | On appln. | Catalogue available. Specials supplied |
| JOHN PHILLIPS LTD. ... ... | 1 | Br., B.M.A., C.P., S.S. | 12" × 3" | 12" × 3" | On appln. | — |
| PRYKE & PALMER LTD. ... ... | 4 | B.M.A., C.P., S.S. | 12" × 4" | 8" × 3½" | 7/6 to 42/- | Specials supplied |
| N. F. RAMSAY & CO. LTD. ... | 7 | A.B.I., Antique hammered I., Lacquered Br., B.M.A., A.Al., Pl., C.P., S.C.P. | 18" × 4" | 9" × 3" | 2/- to 39/- | — |
| ALFRED G. ROBERTS LTD. ... | Many | All finishes | 15" × 4" | 9" × 3" | From 2/6 | Specials supplied |
| ROWE BROS. & CO. LTD. ... | Many | Br., A.Al., B.M.A., B.M.A. finish, C.P. | As required | As required | On appln. | Specials supplied |
| ROWNSON, DREW & CLYDESDALE LTD. | 2 | Real B.M.A., B.M.A. finish | 12" × 3" | 12" × 3" | 5/6 to 7/6 | — |
| J. & H. SMITH LTD. ... ... | 10 | S.S., Bz., C.P., Pl., Px. | 12" × 3" | 6" × 2" | 4/- to 30/- | Specials supplied |
| STANDARD RANGE & FOUNDRY LTD. | Many | All finishes | As required | As required | On appln. | Specials supplied. Catalogue being prepared. |
| STEDALL & CO. LTD. ... ... | Many | All finishes | As required | As required | On appln. | New catalogue just produced |
| TAYLOR, PEARSE & CO. LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| TEUTEN-DAVIS BENNETT LTD. | 2 | B.M.A., S.C.P., Al. | 12" × 3" | 9" × 3" | 4/- to 8/6 | Specials supplied. Catalogue being prepared |
| F. P. WALTHO LTD. ... ... | Many | All finishes | As required | As required | On appln. | Specials supplied. Best seller, Bz. sizes 12" × 3" and 18" × 3" |
| NEVILLE WATTS & CO. LTD. ... | Many | All finishes | As required | As required | On appln. | Specials supplied |
| YANNEDIS & CO. LTD. ... ... | Many | All finishes | As required | As required | On appln. | Specials supplied. Comprehensive catalogue being prepared |
| J. YOUNG & CO. (Kennington) LTD. | Many | All finishes | As required | As required | On appln | — |
| YOUNG & MARTEN LTD. ... | Many | All finishes | As required | As required | On appln. | — |

1
To re-fuse, simply insert sixpenny piece into screw-head and give ¼-turn.
2
Out drops spent fuse. Slot now clear for immediate replacement.
3
Insert new fuse and lock by re-turning screw.

## *Re-fused in 15 seconds without dismantling*

Re-fusing is quick and simple with the Ediswan rectangular pin plug and plug adaptor. The adaptor is wired to an appliance in place of a normal plug. A second appliance can then be fed from the adaptor outlet.

# EDISWAN

**RANGE OF ELECTRICAL ACCESSORIES**

*A catalogue and price list of the complete range of Ediswan electrical accessories is available on request.*

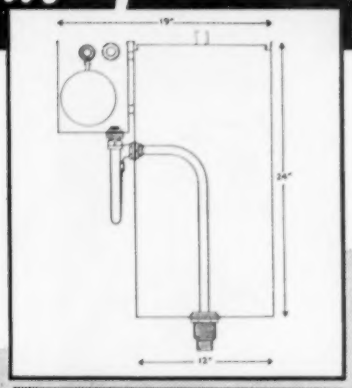
THE EDISON SWAN ELECTRIC COMPANY LIMITED

155 Charing Cross Road, London, W.C.2, and branches.

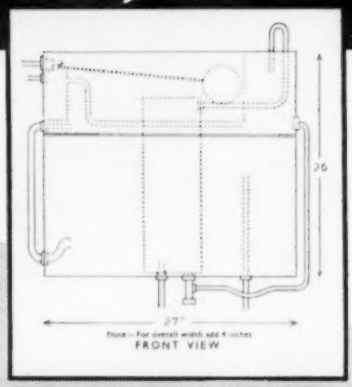
*Member of the A.E.I. Group of Companies*

# To get you out of HOT WATER Troubles

*Specified by Local Authorities, Architects and Heating Engineers throughout the country.*



DURHAM

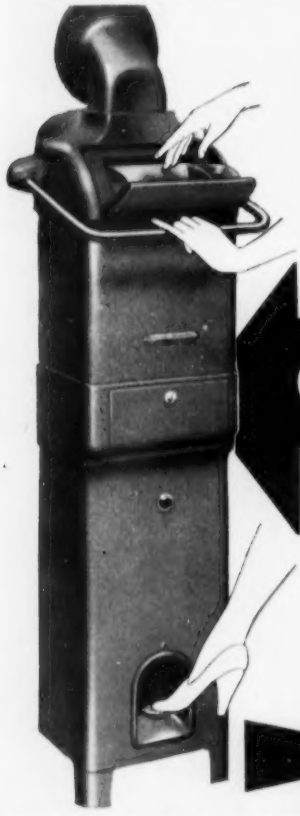



CALORIFIER

# ROLYAT TANKS

PATENT HOT WATER

THE ROLYAT TANK CO. LTD. · CROMWELL ROAD · YORK



*The* G.E.C. *electric SANITARY incinerator*

## GUARANTEED for 12 MONTHS

★ In a class of its own for hygienic and efficient disposal of sanitary wear and surgical dressings.

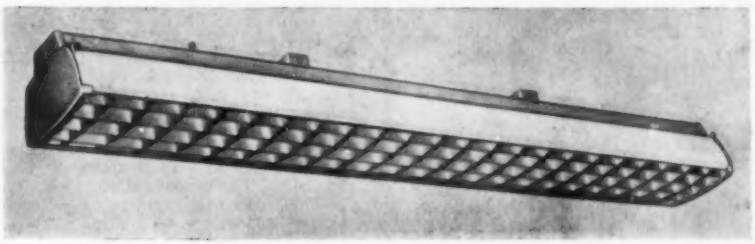
★ Simple to operate—foot pedal opens hopper and automatically controls switching.

★ Solid rod heating element for long life; special clutch mechanism for economic operation.

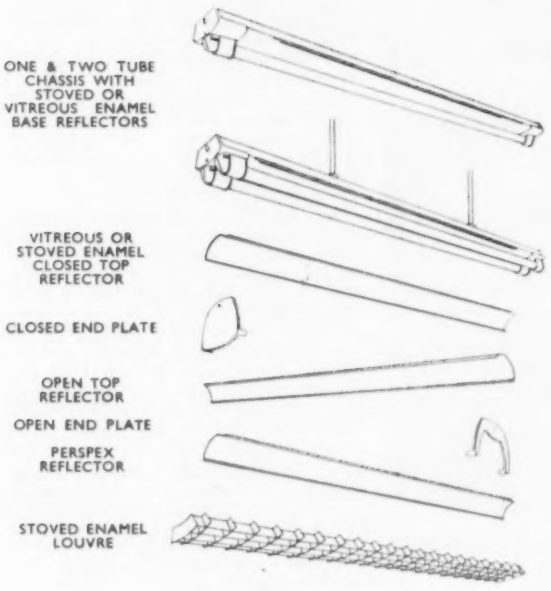
★ Awarded the Certificate of the Royal Institute of Public Health and Hygiene.

**WRITE** *for fully descriptive folder on the dependable G.E.C. Sanitary Incinerator.*

THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON, W.C.2



## Crompton "NEW-RANGE" Fluorescent Fittings


ONE & TWO TUBE CHASSIS WITH STOVED OR VITREOUS ENAMEL BASE REFLECTORS
VITREOUS OR STOVED ENAMEL CLOSED TOP REFLECTOR
CLOSED END PLATE
OPEN TOP REFLECTOR
OPEN END PLATE
PERSPEX REFLECTOR
STOVED ENAMEL LOUVRE

Crompton Parkinson, Ltd., of Crompton House, Aldwych, W.C.2, have recently introduced a new range of industrial fluorescent lighting fittings. No fewer than 54 different fittings can be made up from about 10 components. Peter Bell, M.S.I.A., was commissioned as consultant designer, and a feature of this range is that all the variations may be used one with another whilst comforming with an overall design scheme.

Forming the foundation for the complete range are one-lamp and two-lamp general lighting fittings which can have base reflectors with either a "Permawhite" high-gloss stoved enamel finish or, for gritty atmospheres, a vitreous enamel finish.

From these general lighting fittings, the range of reflector fittings is built up by the addition of light alloy die-cast end plates to which the side reflectors are attached. In this manner, open or closed top effects in "Permawhite" or vitreous finish are obtained, or translucent effects with opal diffusing "Perspex." A feature of the open-top reflectors, incidentally, is that there are no obvious apertures to cause discomforting glare; nor are there any projections to interfere with the easy cleaning of the equipment.

By dispensing with one side reflector, the fittings automatically, and at a lower price, become suitable for the lighting of display shelves, wall charts, etc., whilst, with the full complement of reflectors or a single-side reflector, all the closed-end fittings may be converted to louvre fittings simply by attaching a rigid "Permawhite" finish metal louvre having approximately 25-35 deg cut-off.

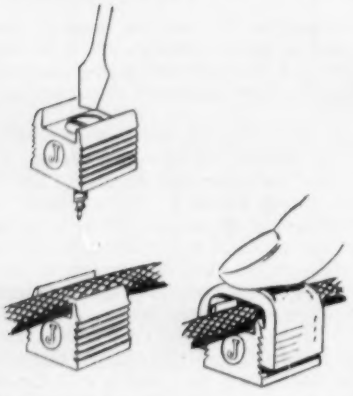
## A Domestic Heat Pump

The principle of the heat pump was first propounded by Lord Kelvin in 1852, but only recently has a domestic unit been evolved. This model, the second to appear on the market, is known as the "Fridge-heater" and has been designed by Ferranti Ltd. of Moston, Manchester, 10. The cabinet, illustrated on the left, is 16in. sq. on plan and 3ft. high. It is intended that it should be situated in the larder which it should keep at about 15—20° F. below the outside temperature. The action of the heat pump is also to dry and clean the air in the larder as well as to cool it. The "Fridge-heater" will supply all the hot water for domestic uses but will not heat a radiator. The size of the storage tank should be between 10 and 30 gallons depending upon the requirements of the household. The hot water temperature is 140° F. and the unit consumes on an average 400 W. The Ferranti heater is thermostatically controlled, and it is an interesting feature that if the hot water is not used the machine will not cool the larder. The efficiency of both the functions depends largely on correct installation and reasonable use. The unit is guaranteed for 12 months.

# MOSAICS

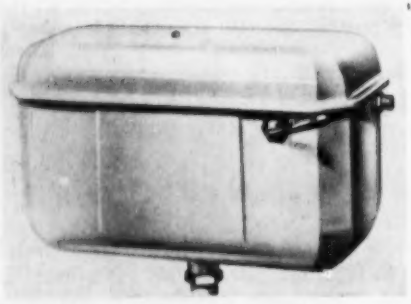
SERVICES
VENTILATION
B2/21

The new Multiswirl M.E. 10/9 Hydrostatic Dust Collector has been produced by Dallow Lambert & Co. Ltd., Spalding Street, Leicester. This unit is designed to handle 1,000 c.f.m. It is of streamlined design and is suitable for the chemical trade in its widest applications, all types of explosive dusts, foundry work, sanding operations, etc., special safety features being afforded for the handling of explosive materials. A hand-controlled valve allows for sludge removal.



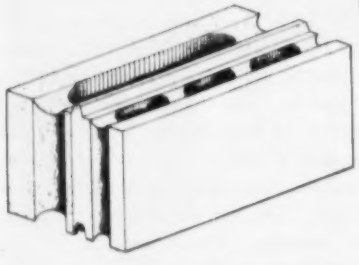
SERVICES
ELECTRICAL ACCESSORIES
B5/45

The EL Cleat has been produced by J. A. B. Jacobsen Ltd., 22-24 Ritherdon Road, London, S.W.17. It is a two-part cleat in moulded plastic. The base section is fixed by a single screw in the required position. The cable, lighting flex or multi-strand insulated wires are then placed in the groove and the top half of the cleat driven home by thumb pressure. This simple and ingenious fitting is obtainable in transparent, plain, red, yellow, blue and green.



SERVICES
PLUMBING
B4/25

Fordham Pressings Ltd., Melbourne Works, Dudley Road, Wolverhampton, have re-designed their seamless steel panel flushing cisterns. The new raised panel and rounded corners have greatly modernized the appearance of this unit.



STRUCTURE
BUILDING BLOCKS
A6/5

This new load bearing building block, by Merit (Stone) Ltd., of Wyton, Hull, has been designed to B.S.2028 and measures 17⅜in by 8⅝in high by 8⅝in wide. One is the equivalent in volume of 12 ordinary bricks, permitting about four times the speed of construction of ordinary brickwork. Apart from the standard block there are eleven complementary units to provide the corners and junctions probable in modern planning. The full range of twelve blocks are made either of Foamed Slag or No Fines concrete. In the illustration the external face is shown, the larger cavity being behind the inner face.

## INDUSTRIAL NOTES

● W. H. Colt (London), Ltd., of Surbiton, Surrey, have recently made available on loan two technical films. The first, "Colt Canadian Cedarwood Shingles," shows the technique of fixing these shingles to various types of roofs and walls. The second, "Colterro Plaster Lath," shows the application of this material to ceilings and walls.

● During 1953 the cement delivered from the Blue Circle Group's home works and the works in which the Group is interested overseas was sufficient to make a 20ft wide concrete roadway 14,000 miles long—over half-way round the world.

Deliveries of cement totalled 8,782,853 tons, including just over 1,500,000 tons made by the overseas works. Production would have been at least 50,000 tons higher but for the East Coast floods which damaged four Thames-side works.

It is estimated that at least one-third of the home trade deliveries were for building houses and flats. The average use of cement for a house is about 8½ tons, and this does not include factory-made concrete units.

Exports by the Group earned Britain more than £10,000,000—but to do this 500,000 tons of cement had to be imported from the Continent and sold at the home trade price which realized £800,000 less than its cost.

● Mr. K. T. Saxton, General Manager of John J. Bowater, Ltd., paint manufacturers specializing in industrial finishes, has been appointed to the Board of Directors. Mr. Saxton joined Bowaters after the war as London Manager. He was transferred to West Bromwich in January, 1953, when he became General Manager of the company. Bowaters is a subsidiary of Blundell, Spence & Co., Ltd.

● After more than five years' work, a 14-man committee of the International Chamber of Commerce, representing 11 nations, has produced the first complete international Dictionary of Advertising and Distribution. It is in the eight languages most needed by business men dealing with sales, distribution, marketing and advertising in foreign markets.

Published by the International Chamber of Commerce. £6 13s post free. Special price for I.C.C. members, £4 12s post free. Obtainable from the British National Committee, International Chamber of Commerce, 15, Kingsway, London, W.C.2.

● Mr. A. J. Betts, A.M.I.E.E., has been appointed General Sales Manager of Enfield Cables, Ltd., and will be responsible to the Sales Director for the Company's Home and Overseas business.

● Pilkington's Tiles, Ltd., announce that Mr. David G. Fildes, of Manley Knoll, Manley, Cheshire, has been appointed a Director of the Company.

● The first ¼in asbestos insulation board to span four feet without a central support has made its debut on the stand (No. 17) of The Cape Asbestos Company at the Twentieth Building Trades Exhibition, which opened in Manchester on the 19th.

# WATES 'NEW-TRADITION' AND YOUR 1955 HOUSING BUDGET

Local Authorities can provide housing at economic rents by employing the Wates System. Example :— Two-Bedroom flats in three storeys on a Wates Contract let at 25/- weekly inclusive.

## More Homes, more quickly

Compared with traditional building, the hand-over rate is usually about two to one. Already more than 20,000 Wates houses and flats have been provided for Housing Authorities throughout the country. During five years' continuous building for the Worcester Corporation, for example, an average hand-over rate of nearly twenty dwellings a month was maintained.

## Variety in design

Designs include terraced and semi-detached houses with two, three or four bedrooms, flats up to eleven storeys with one, two or three bedrooms, and Old People's Bungalows. There are also special designs for mining areas. Architectural diversity can be achieved by varying exterior treatments, which include a wide range of self-coloured exposed aggregates, tile hanging, and other attractive finishes.
Internal layouts meet today's demands for space and easy running, and these can be modified to suit local requirements.

## The Wates Organisation

Modern mechanical plant, up-to-date production methods, a permanent skilled labour force, and specialised experience. That is the background to the Wates Organization. Consultation with Wates in the early planning stages will result in real savings in time and money. In addition to keen and competitive prices, Wates Architects are specialists in planning for the greatest economy, and their services are at the free disposal of all Housing Authorities.
Tenders can normally be submitted within forty-eight hours. If required, fixed prices can be quoted so that Housing Authorities know their exact commitment before work begins.

*Write for further details of Wates New-Tradition Housing, including the booklet 'Permanent Housing in Reinforced Concrete'.*

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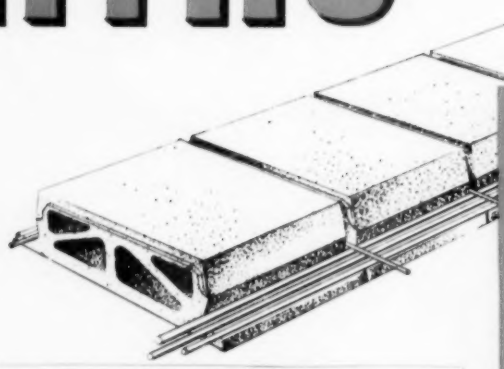

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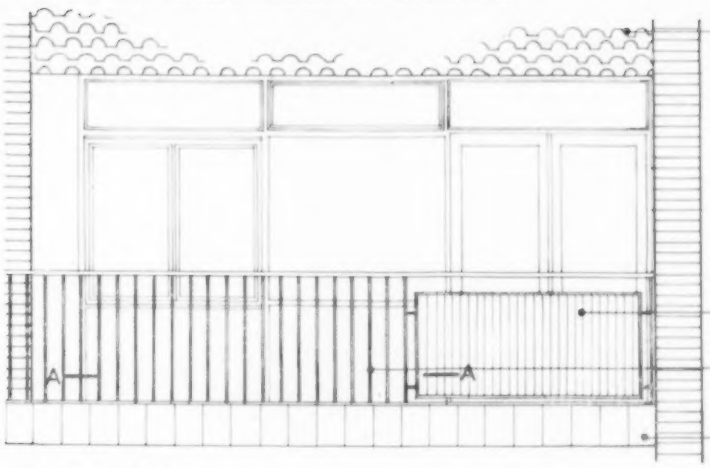
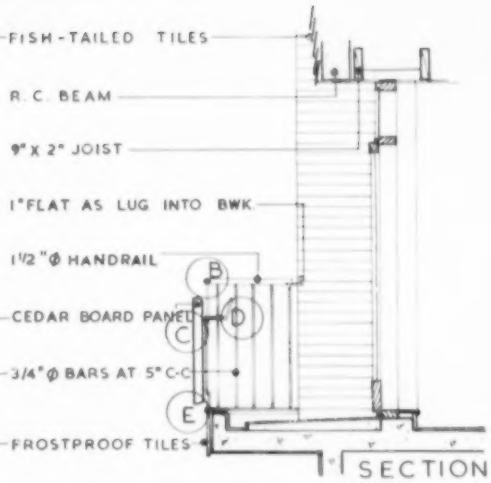
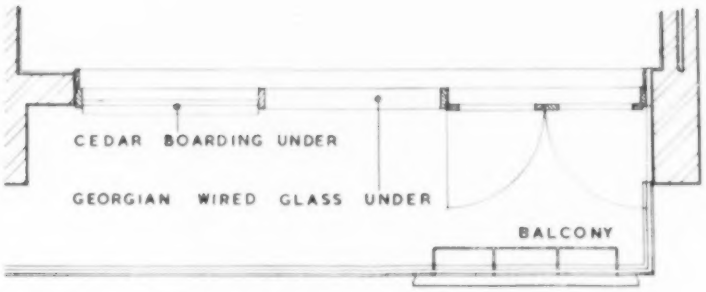


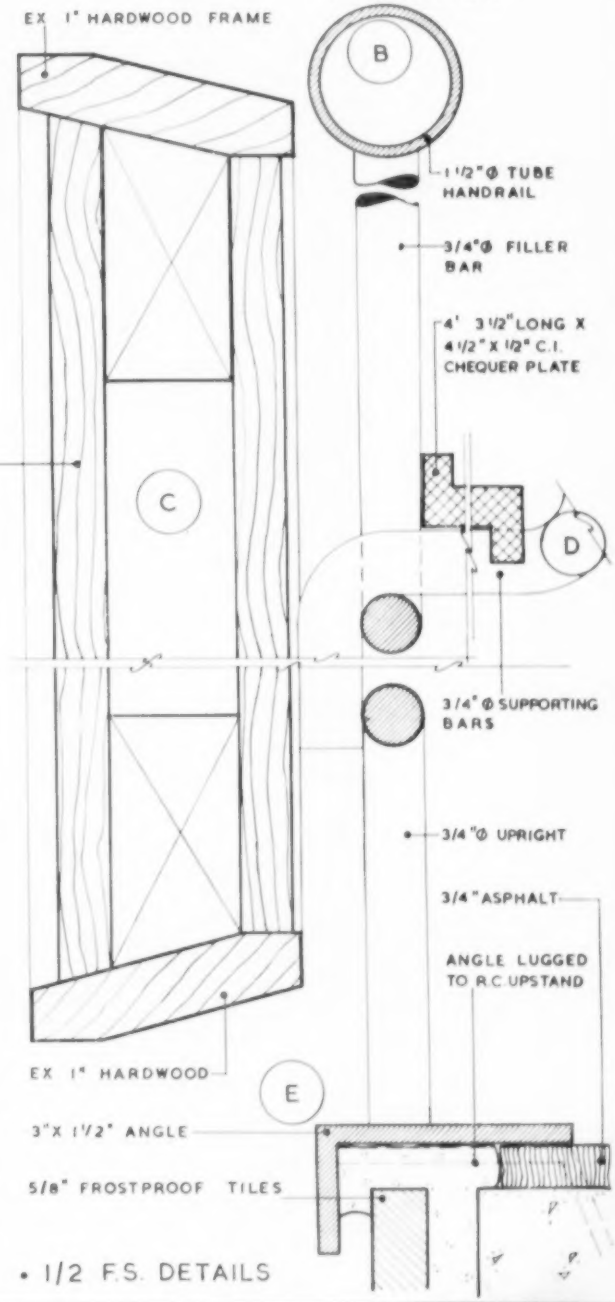

ELEVATION

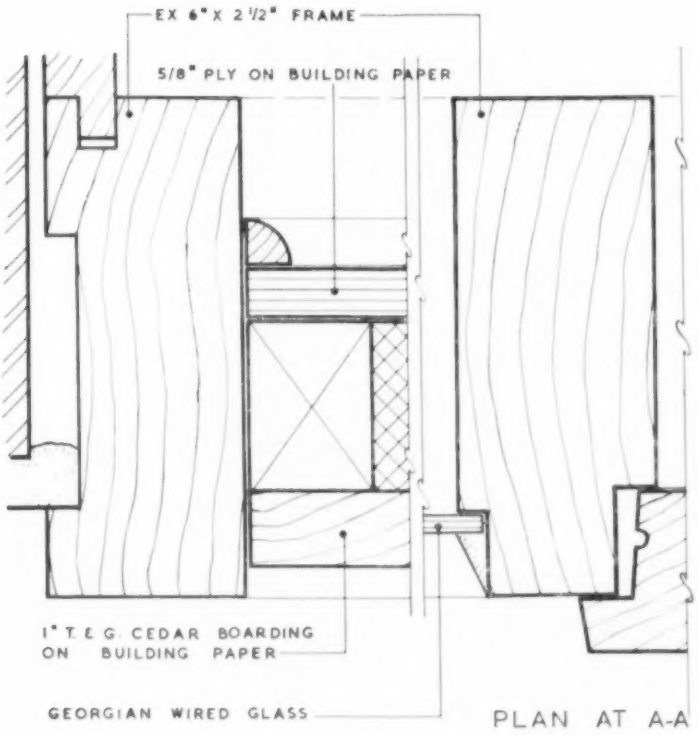



SECTION




PLAN • 1/4" TO ONE FOOT




PLAN AT A-A

• 1/2 F.S. DETAILS

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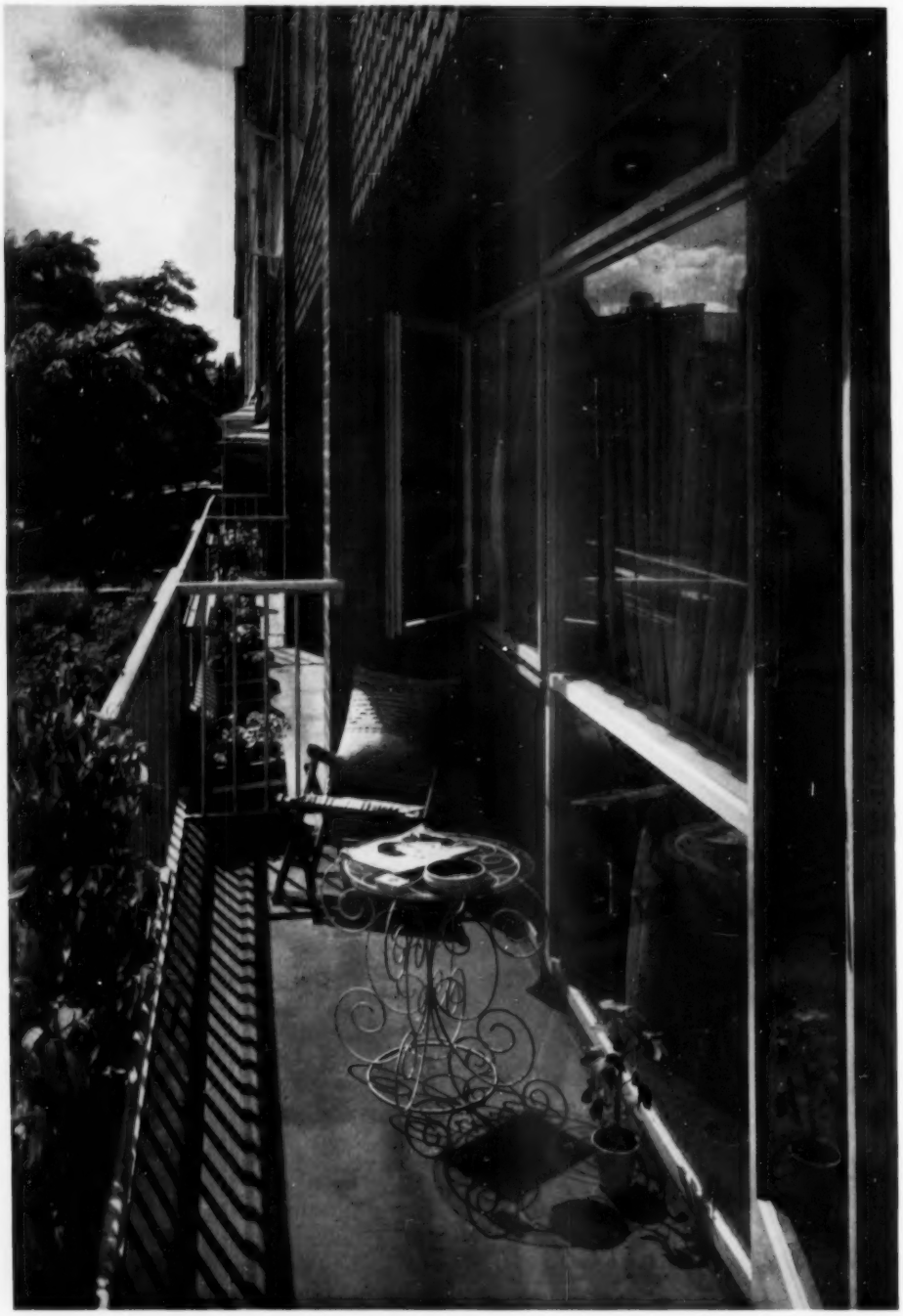

BALCONY DETAIL,
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ARCHITECTS: ERIC LYONS & G. PAULSON TOWNSEND

*Notes below give basic data of contracts open under locality and authority which are in bold type. References indicate : (a) type of work, (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading, (c) deposit, (d) last date for application, (e) last date and time for submission of tenders. Full details of contracts marked ★ are given in the advertisement section.*

# CONTRACT • NEWS •

## OPEN

### *BUILDING*

**AIREBOROUGH B.C.** (a) Library in Otley Road, Guiseley, near Leeds; (all trades). (b) Engineer and Surveyor, Micklefield House, Rawdon, near Leeds. (c) 2gns. (e) Nov. 15.

* * *

**BROMLEY B.C.** (a) 66 flats, Blyth Road. (b) Borough Engineer, Municipal Offices. (c) 2gns. (d) Nov. 6.

* * *

**CAMBRIDGE C.C.** (a) 6 shops and 28 flats in 3-storey blocks, Anstey Way, Trumpington. (b) City Surveyor, Guildhall. (c) 2gns. (d) Nov. 2.

* * *

**CROSBY B.C.** (a) (1) block of 4 flats in Sandown Road, Seaforth; (2) block of 4 flats in Oaklands Avenue extension, Crosby. (b) Borough Engineer, Town Hall, Waterloo, Liverpool, 22. (c) 2gns. (e) Nov. 9.

* * *

**DULVERTON R.C.** (a) 12 houses and 8 bungalows, Brushford Housing Estate. (b) Council's Surveyor, The Offices. (c) 2gns. (e) Nov. 26.

* * *

**ENFIELD U.C.** (a) 24 flats and 64 houses, Manor Farm Site. (b) Engineer and Surveyor, 7, Little Park Gardens. (c) 2gns. (d) Nov. 2. (e) Nov. 24.

* * *

**ENFIELD U.C.** (a) 24 flats, branch library and community hall, Bullsmoor Lane Estate. (b) Engineer and Surveyor, 7, Little Park Gardens. (c) 2gns. (d) Nov. 2. (e) Nov. 24.

* * *

**ESSEX RIVER BOARD.** (a) Erection of a divisional office, Peartree Road, Stanway, Colchester. (b) Engineer, Rivers House, 129, Springfield Road, Chelmsford. (c) 2gns. (e) Nov. 27.

* * *

**ETON U.C.** (a) 6 houses, Tilstone Close, Eton Wick. (b) Engineer and Surveyor, High Street. (c) 2gns. (e) Nov. 6.

* * *

**FOLKESTONE B.C.** (a) Construction of public conveniences at Marine Gardens Shelter and Town Hall. (b) Borough Engineer, Municipal Offices, West Terrace. (c) 2gns. (d) Nov. 1.

* * *

**GRANTHAM B.C.** (a) 1 block of 3 bungalows on site 2, Sharpe Road, and 1 pair of bungalows on site 3, off Harrowby Lane. (b) Borough Surveyor, Guildhall. (c) 2gns. (e) Nov. 5.

* * *

**GUILDFORD B.C.** (a) 12 pairs of houses, Park Barn. (b) Borough Engineer, Municipal Offices, High Street. (c) 2gns. (e) Nov. 17.

* * *

**HAMBLEDON R.C.** (a) 18 houses and 4 flats, Barnett Lane, Wonersh. (b) Engineer and Surveyor, Council Offices, Bury Field, Guildford. (c) 3gns. (e) Nov. 17.

* * *

**HAYES AND HARLINGTON U.C.** (a) 14 dwellings, Botwell Lane, Park Farm Estate. (b) Engineer and Surveyor, Town Hall, Hayes, Middx. (d) Nov. 3.


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**HUDDERSFIELD B.C.** (a) Alterations and extensions to home for the blind at "The Holly," Marsh, Huddersfield. (b) Borough Architect, High Street Buildings. (c) 2gns. (e) Nov. 11.

* * *

**IRLAM U.C.** (a) Demolition of existing buildings and construction of a public convenience adjacent to The Coach and Horses Hotel, Liverpool Road, Cardishead. (b) Engineer and Surveyor, Council Offices, Irlam, Manchester. (c) 2gns. (e) Nov. 13.

* * *

**KINGSTON-UPON-THAMES B.C.** (a) (1) erection of public convenience, Latchmere Recreation Ground; (2) extension to Sports Pavilion, King's Field. (b) Borough Surveyor, Guildhall. (d) Nov. 2.

* * *

**LEEDS C.C.** (a) 130 dwellings on Swarcliffe, Seacroft Estate. (b) City Architect, Priestley House, Quarry Hill, 9. (c) £1. (e) Nov. 15.

* * *

**LITTLEHAMPTON U.C.** (a) 12 houses, Wickbourne Estate Extension. (b) Engineer and Surveyor, Council Offices. (c) 2gns. (e) Nov. 22.

* * *

**LONDON—HAMPSTEAD B.C.** (a) 80 flats and maisonettes in 3 4-storey blocks and 4 3-storey blocks, Fellows Road, N.W.3. (b) Town Clerk, Town Hall, Haverstock Hill, N.W.3. (d) Nov. 3.

* * *

**LONDON—TOTTENHAM B.C.** (a) 6 3-storey flats, Asplins Estate, rear of Lansdowne Road. (b) Acting Borough Engineer, Town Hall, N.15. (c) 2gns. (d) Nov. 7.

* * *

**LONGRIDGE U.C.** (a) 48 houses, Kestor Lane. (b) Clerk of the Council, Council Offices, Longridge, Preston. (c) £2. (e) Nov. 16.

* * *

**LOWESTOFT B.C.** (a) Construction of new toilet and cloakroom accommodation and central heating installation, St. Andrew's School, Haward Street. (b) Borough Engineer, 49, High Street. (c) 2gns. (e) Nov. 11.

* * *

**MAIDENHEAD B.C.** (a) 6 houses, Pinkneys Green Estate. (b) Borough Engineer, 14, Craufurd Rise. (c) 2gns. (e) Nov. 12.

* * *

**MALTBY U.C.** (a) 7 shops with living accommodation, Cliff Hills Estate, Maltby. (b) Council's Architect, Council Offices, Rotherham Road. (c) 2gns.

* * *

**MARLOW U.C.** (a) 14 houses, Westhorpe Road Site. (b) Messrs. Henry Cooper and Sons, 6, The Forbury, Reading. (c) 2gns. (e) Nov. 15.

* * *

**MORLEY B.C.** (a) (Contract 1) 44 houses; (Contract 2) 20 houses; Dean Hall Estate, Asquith Avenue. (b) Housing Director, National Provincial Bank Chambers, Queen Street. (c) 2gns. (e) Nov. 15.

* * *

**N. IRELAND—FERMANAGH C.C.** (a) Alterations and additions to Moat Primary School, Lisnaskea. (b) H. M. Jones, 27, High Street, Enniskillen. (c) 4gns. (e) Nov. 9.

* * *

**N. IRELAND HOSPITALS AUTHORITY.** (a) Erection of a ward unit on Royoria Site at Royal Victoria Hospital, Belfast. (b) Messrs. W. H. Stevenson and Sons, 13, Donegall Square North, Belfast. (c) 5gns. (e) Nov. 5.

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**NORFOLK C.C.** (a) Erection of Aylsham Secondary Modern School. (b) Chief Education Officer, County Education Offices, Stracey Road, Norwich. (d) Nov. 5.

* * *

**NORTH RIDING C.C.** (a) Erection of new county primary school at Eastfield, Scarborough. (b) W. W. Atkinson, 4, Raymond Buildings, Gray's Inn, London, W.C.1. (e) Nov. 12.

* * *

**OLDHAM.** (a) Erection of a new junior school, Wildmore Avenue, Holt's Estate. (b) Messrs. Leach, Rhodes and Walker, 90, Deansgate, Manchester, 3. (c) 2gns. (e) Nov. 15.

* * *

**PAIGNTON U.C.** (a) 60 flats and maisonettes and 10 lock-up shops and maisonettes. (b) Clerk of the Council, Municipal Offices, Oldway. (c) 2gns. (d) Nov. 1.

* * *

**POOLE B.C.** (a) Erection of brick and tile pump house, mess room, conveniences, dwelling house, site works and drainage on a site one mile west of Sturminster Marshall, Dorset. (b) Water Engineer, Municipal Buildings. (e) Nov. 17.

* * *

**PRESTON B.C.** (a) 3 blocks of 2-storey flats, each block containing 4 flats, Grizedale Crescent, Ribbleton Hall Estate. (b) Borough Engineer, Municipal Building. (c) 2gns. (e) Nov. 5.

* * *

**PUDSEY B.C.** (a) 28 houses, Cemetery Road (North) Housing Site. (b) Borough Surveyor, Town Hall. (c) 2gns. (e) Nov. 6.

* * *

**ROCHDALE B.C.** (a) 3 blocks of shops and dwellings and a block of garages, Kirkholt Housing Estate. (b) Borough Surveyor, Town Hall. (c) 2gns. (e) Nov. 22.

* * *

**SALFORD C.C.** (a) New bathroom extensions to 37 houses, Seaford Road Estate, Salford 6. (b) City Engineer, Town Hall, 3. (c) 2gns. (e) Nov. 12.

* * *

**SHEFFIELD C.C.** (a) Erection of a county primary school at Bradway. (b) City Architect, Town Hall, 1. (c) £2. (e) Nov. 12.

* * *

**SHREWSBURY B.C.** (a) Construction of first stage of new cattle market, comprising sale ring, lairage for 400 cattle, loading bays, office block, restaurant and kitchen, caretaker's house, roads, car and lorry parks and sewers. (b) Borough Surveyor, Guildhall. (c) 2gns. (d) Nov. 3.

* * *

**WEST RIDING C.C.** (a) Alterations and additions to house block at Sharow View, Ripon. (b) County Architect, "Bishopgarth," Westfield Road, Wakefield. (e) Nov. 8.

* * *

**WEST SUSSEX C.C.** (a) (1) Erection of nurse's house with garage at Singleton, near Chichester; (2) Erection of nurse's house with garage at North Mundham, near Chichester. (b) County Architect, County Hall, Chichester. (d) Nov. 1.

* * *

**WEST SUSSEX C.C.** (a) Pair of semi-detached agricultural workers' houses, Kingsham Farm, Chichester. (b) County Architect, County Hall, Chichester. (d) Nov. 5.

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**WILTSHIRE C.C.** (a) Construction of a new practical room and store at Westcott, Swindon. (b) Clerk of the County Council, County Hall, Trowbridge. (c) 2gns. (d) Nov. 2. (e) Nov. 25.

* * *

**WORTLEY R.C.** (a) 14 houses, Burncross Road, Chapeltown, near Sheffield. (b) A. Wikeley, Council Offices, Grenoside, Sheffield. (c) 5gns. (e) Nov. 8.

## PLACED

*Notes on contracts placed state locality and authority in bold type with (1) type of work, (2) site, (3) name of contractor and address, (4) amount of tender or estimate. † denotes that work may not start pending final acceptance, or obtaining of licence, of modification of tenders, etc.*

**HARLOW DEVELOPMENT CORPORATION.** (1) Shopping centre, public hall, offices. (2) Stone Cross, Town Centre. (3) W. and C. French, Ltd., Buckhurst Hill, Essex. (4) £173,637.

* * *

**LONDON COUNTY COUNCIL.** (1) Block of 35 flats. (2) Neptune Street, Bermondsey. (3) A. T. Rowley (London), Ltd., Tottenham, N.17. (4) £60,744. (1) Block of flats. (2) Woodberry Down, Stoke Newington. (3) J. M. Hill and Sons, Ltd., Wembley, Middlesex. (4) £55,837.

* * *

**BRISTOL CORPORATION.** (1) 239 houses, 94 flats. (2) Hartcliffe. (3) John Laing and Son, Ltd., London, N.W.7. (4) £593,859. (1) 148 "Cornish Unit" houses. (2) Eastwood Crescent. (3) Selleck, Nicholls and Co., Ltd., St. Austell, Cornwall. (4) £192,095. (1) 65 flats and maisonettes. (2) Redcliff. (3 William Cowlin and Sons, Ltd., Stratton Street, Bristol, 2. (4) £130,673. (1) 188 flats. (2) Lawrence Weston Estate. (3) Stone and Co. (Bristol), Ltd., 140, Redland Road, Bristol, 6. (4) £354,302.

* * *

**BRISTOL CORPORATION.** (1) Crematorium. (2) Canford Cemetery. (3) John Knox (Bristol), Ltd., Coronation Road, Bristol. (4) £44,778.

* * *

**HULL CITY COUNCIL.** (1) 132 dwellings. (2) Longhill Estate. (3) A. E. Jenkinson, Ltd., 60, Anlaby Park Road, Hull. (1) 48 dwellings. (3) Scruton and Co. (Builders), Ltd., 79, Leonard Street, Hull.

* * *

**BARNES B.C.** (1) 72 flats, etc. (2) Priests Bridge, Upper Richmond Road. (3) Tersons, Ltd., Dollis Park, Finchley, N.3. (4) £150,951.

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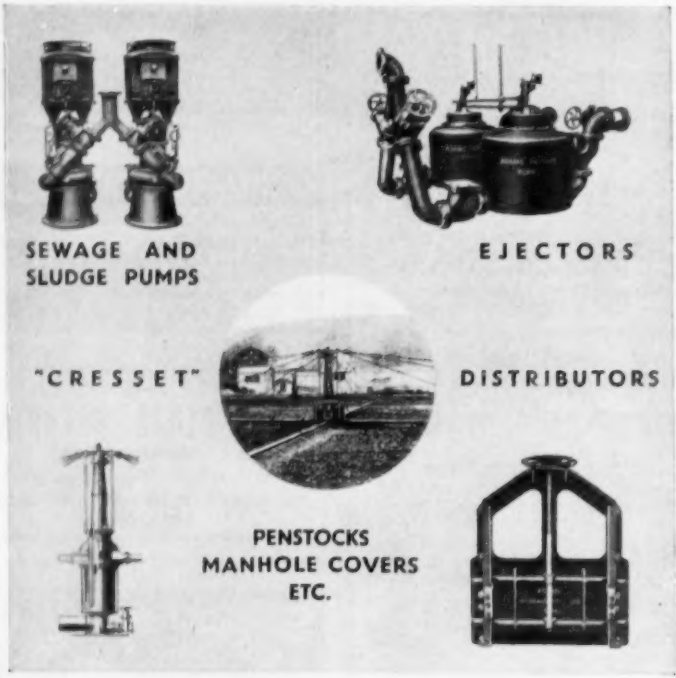


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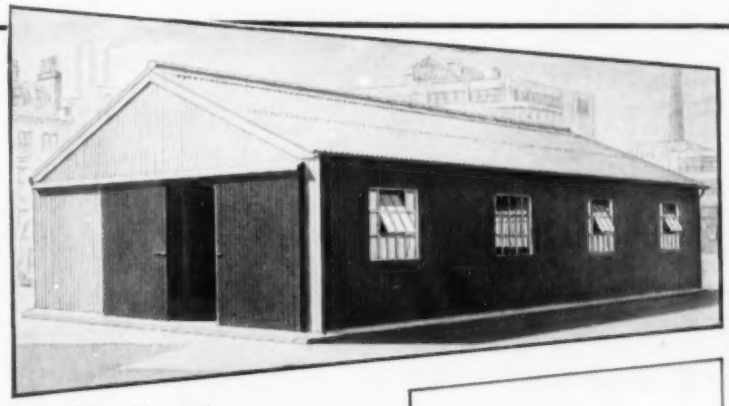

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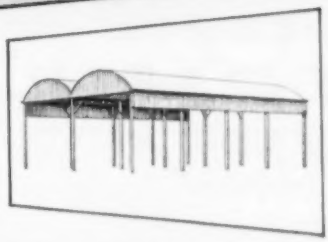

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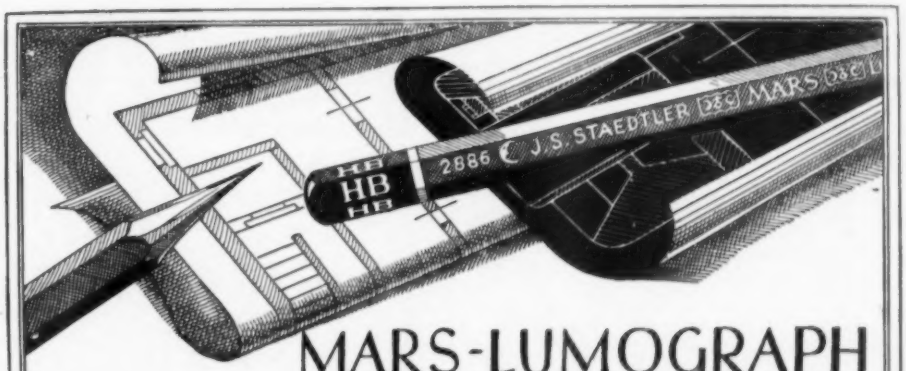


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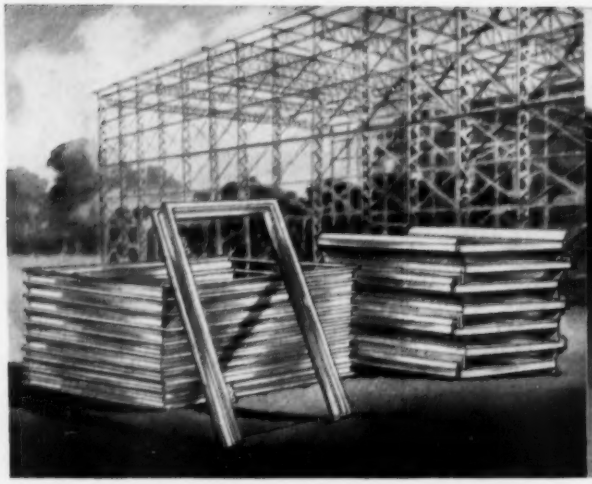

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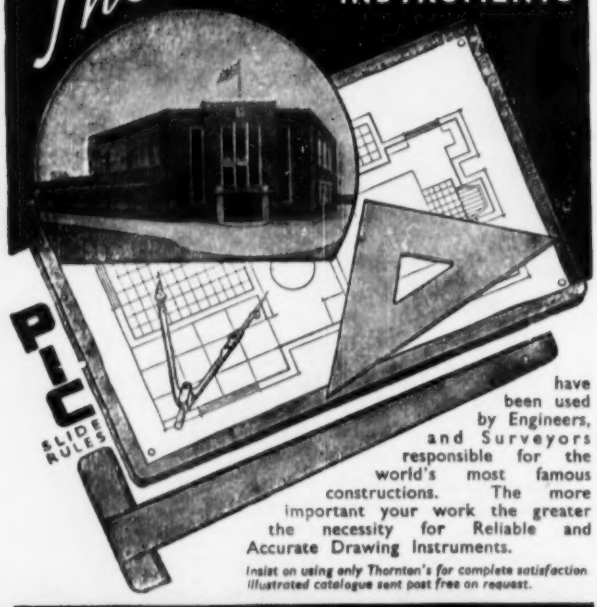


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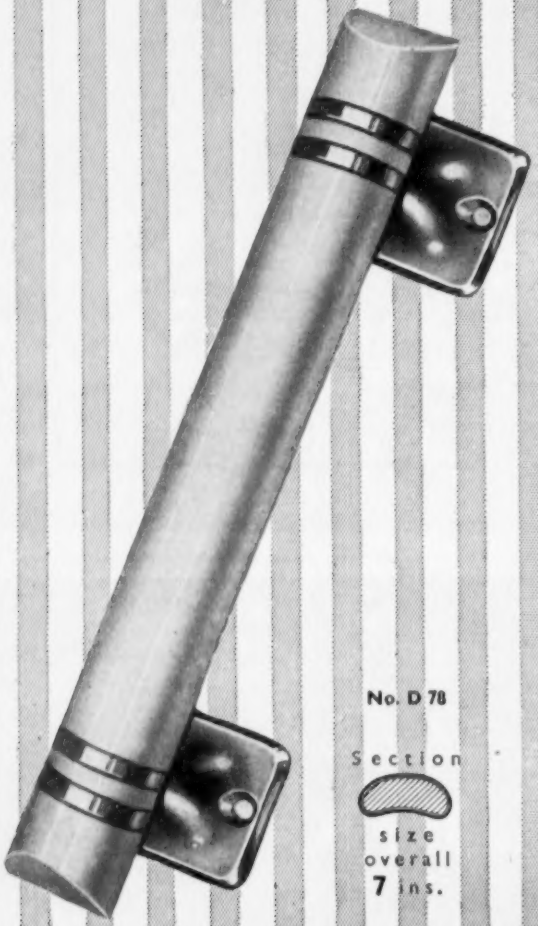

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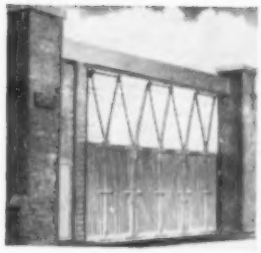
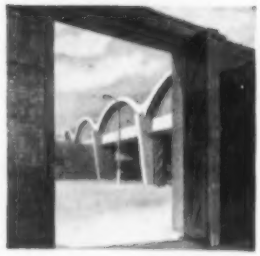

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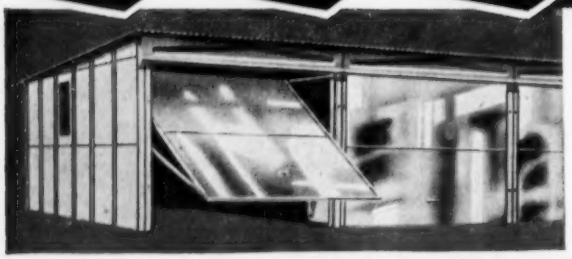

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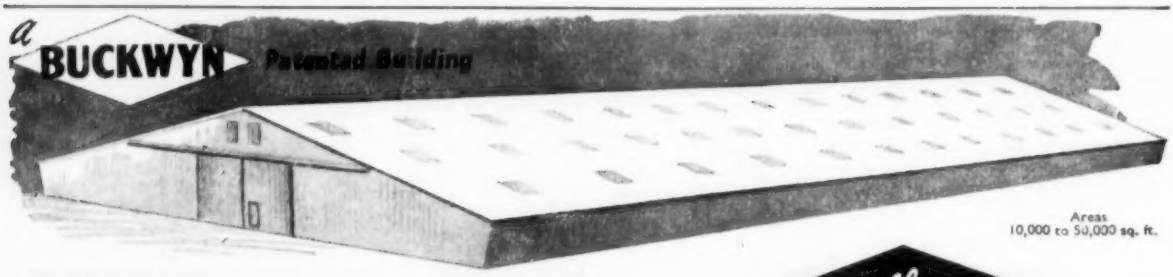

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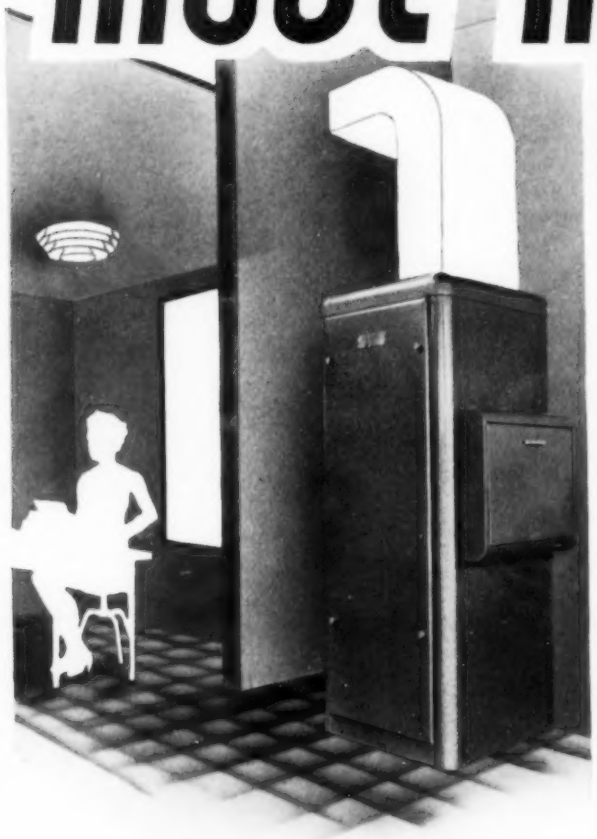

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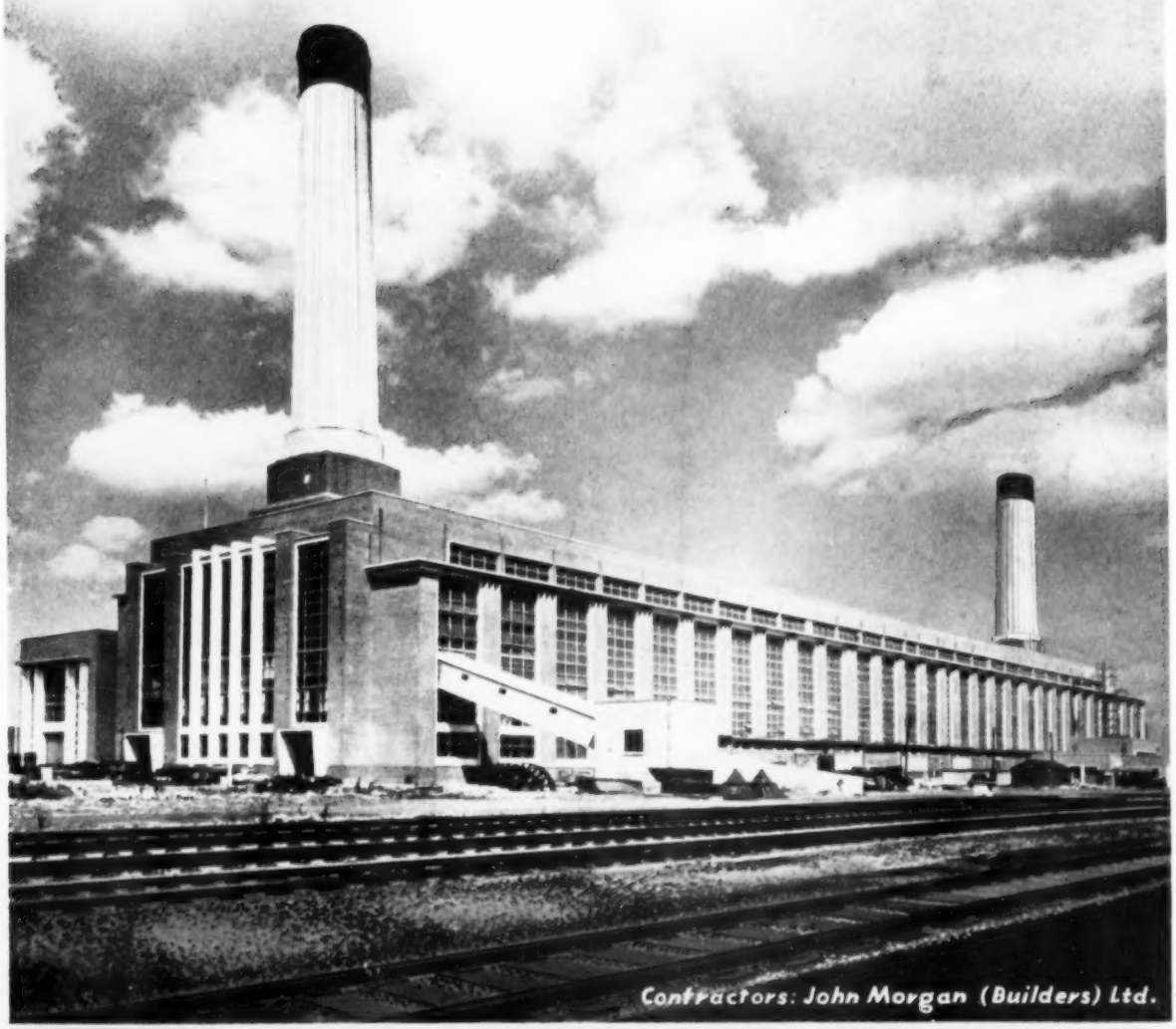

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